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ABSTRACT

This report covers phase one of a three-stage project commissioned by the Higher Education Funding Councils for England, Scotland, and Wales (HEFCE, SHEFC, and HEFCW) to determine the role of threshold standards and conditional funding in improving standards in research degree programs (RDPs). The aim of this report is to review good practice and identify indicators that could form the basis of threshold standards. Phases two and three will develop these standards, systems for assessment and monitoring, and the funding models needed to support such a system. The document presents a framework of standards for RDPs that builds on good practice identified through surveys (108 and 186 respondents, institutional visits, workshops, and interviews with research funders and other stakeholders. The framework covers the breadth of research training, including the research environment, issues related to students, supervisory arrangements, and skills development. At this stage the project does not recommend threshold levels for the standards or how funding should be linked to the achievement of the standards, but it does include indicative values for each standard to encourage institutions to use the framework to consider their RDP provision and to form a platform for further discussion across the sector.Recommendations are noted as they arise in the discussion; the principal recommendation is that Funding Councils adopt the framework and define threshold standards as the basis for conditional funding for RDPs. Eleven annexes contain supplemental information about the project. (SLD)

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ED 475 555

Improving standards in postgraduate research degree programmes

A report to the Higher Education Funding Councils of England, Scotland and Wales

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October 2002

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Foreword

As Chairman of the Joint Funding Councils' Steering Group on postgraduate education it gives me great pleasure to introduce this report. When I became Head of the Graduate School at University College London I undertook a confidential web-based survey of all the PhD students, to establish whether there was variability in supervisory practices. I was amazed at how wide that variability was, even within single departments. It was also apparent that few of the students intended to pursue academic careers, and that the extremely narrow focus of their research subject left them, at completion, with few of the skills necessary to enter the job market. The improvements which we have made subsequently have done much to improve the quality of training. They included adopting a standard code of practice which is a de facto agreement between student and university; developing a series of generic skills courses; and adopting a student-held log which records research supervisions, agreed action plans and courses attended.

In setting up the committee and reviewing the evidence put to it by the consultants, it was clear that just as I had found variability in my university, similar variability existed across the country. There are many examples of good practice, and these we have collected together to draw up a framework of standards for research degree programmes. In the framework we identified threshold standards which we believe are attainable by all universities within a very short time. I believe we should set ourselves the goal to achieve higher standards of supervision within five years. After all, the desired outcome is better trained and qualified students who enter the economy able to tackle the problems of the next generation, and no university could argue against that.

It has been a privilege working with the committee and with Janet Metcalfe and her team of consultants. I urge you to read the report carefully and to reflect whether your institution meets these standards. We look forward to hearing your comments.

Roland Levinsky

Professor Roland Levinsky

Vice Chancellor
University of Plymouth

Improving standards in postgraduate research degree programmes

Report to the higher education funding councils for England, Scotland and Wales

Contents

1. Executive summary **4**

2. Introduction **6**

3. Background **7**

4. Project aims **8**

5. Methodology **9**

6. Sector position **10**

6.1 Baseline of current practice 10

6.2 Institutional practice 10

6.3 Operational practice 12

6.4 Examples of good practice 15

7. Framework of quality standards **16**

7.1 Framework descriptions 17

7.2 Use of inputs, processes and outputs standards 17

7.3 Training environment 18

7.4 Improving visibility 19

7.5 Student protection 21

7.6 Institutional quality assurance procedures 23

7.7 Institutional self-assessment 24

7.8 External monitoring 24

7.9 Fit with Research Council requirements 25

8. Implementation **26**

8.1 Implications for institutions 26

8.2 Collaborative arrangements 27

8.3 Diversity of provision 27

9. Next steps **28**

9.1 Implications for funding 28

9.2 Monitoring mechanisms 30

9.3 Sector consultation 31

Annexes

A Glossary and abbreviations

B Steering Group membership and terms of reference

C Project methodology

D Framework of standards for research degree programmes

E Summary of framework standards

F Quality Assurance Agency audit reports

G Joint Research Councils/AHRB statement of skills requirements for research students

H Institutional good practice mapped against framework standards

I Comparisons of international practices

J Relevant literature on research degree programmes

K Research Council/AHRB requirements for postgraduate funding

1. Executive summary

This report covers phase one of a three-stage project commissioned by the Higher Education Funding Councils of England, Scotland and Wales (HEFCE, SHEFC, HEFCW) to determine the role of threshold standards and conditional funding in improving standards in research degree programmes (RDPs). The aim of this report is to review good practice and identify indicators that could form the basis of threshold standards. Phases two and three of the project will develop these threshold standards, systems for assessment and monitoring, and the funding models needed to support such a system – and so deliver an improvement in the standards of RDPs throughout the UK.

Improving the quality of RDPs is high on the agenda for most, if not all, institutions. Implementation of the recommendations of the recent review of research, the Research Councils' drive to improve completion rates for research degrees, and institutional recognition of the need to provide a broader range of training to suit individual needs have seen the quality of RDPs improve over the last few years.

We present a framework of standards for RDPs (Annex D) that builds upon existing good practice identified through survey, institutional visits, workshops, and interviews with research funders and other stakeholders. Within this framework we identify a series of indicators that can be developed into threshold standards for funding and quality assurance.

The framework covers the breadth of research training, including the research environment, selection, induction, progress and examination of students, supervisory arrangements and skills development, together with institutional arrangements for quality assurance, procedures and regulations. We have concerned ourselves with identifying standards that relate directly to the academic provision of RDPs, how these relate to the responsibilities of supervisors and students, and necessary requirements for good institutional administrative procedures.

We believe that the framework will provide a mechanism to improve RDP provision by encouraging consistency of practice across the sector particularly with respect to:

- ensuring students are exposed to an appropriate research environment that includes adequate facilities and training programmes, and access to a sufficient body of active researchers and fellow students

- improving students' understanding of their responsibilities and those of their institution for the RDP, such that students are informed, empowered and take ownership for their research programme and personal development

- increasing the quality of the student/supervisor relationship through the use of supervisory teams, and more transparency brought about by regular independent scrutiny

- the operation of institutional quality assurance processes.

Our principal recommendation is that the Funding Councils adopt the framework and define threshold standards as the basis for conditional funding for RDPs (Recommendation 1). Institutions should be encouraged to build upon existing good practice and to take responsibility for assessing and monitoring achievement of these standards. In order to support institutions, we also make the following recommendations.

- The Funding Councils should:
  - consider developing specific initiatives to support emerging disciplines (Recommendation 5)
  - agree a co-ordinated approach to the definition of threshold standards, implementation mechanisms and funding implications (Recommendation 6).
- The Funding Councils should jointly continue to work with the Research Councils/Arts and Humanities Research Board (AHRB) and other major stakeholders to agree and adopt:
  - common threshold standards as a condition of postgraduate funding (Recommendation 4)
  - a common set of outputs and monitoring systems for RDPs (Recommendation 9).
- When implementing the framework, the Funding Councils should consider:
  - giving institutions responsibility for assessing and providing evidence of the achievement of standards and quality of RDPs (Recommendation 2)
  - adopting an external monitoring system that monitors the quality assurance processes of institutions (Recommendation 3)
  - revising the funding and allocation mechanisms to more directly reflect the cost of postgraduate training (Recommendation 7)
  - the funding implications of supporting the development of collaborative arrangements or bridging mechanisms (Recommendation 8).

It was apparent from our visits to institutions, contributions to the workshops and interviews that there is a high level of commitment from institutions and other stakeholders to continue to improve standards of RDPs. The Funding Councils have an opportunity to make a significant contribution to supporting this process by adopting the framework and revising funding mechanisms to provide positive incentives to institutions.

2. Introduction

In this report we present phase one of a three-phase project to determine the role of threshold standards and conditional funding in improving standards in research degree programmes (RDPs). We describe the background to the project, the aims, and the methodology adopted for identifying good practice and possible threshold standards for RDPs. We report on current practice within the sector, present a framework of standards, make recommendations on its implementation and take a forward look at the implications for phases two and three of this project.

The principal output from this phase is a framework of standards for assuring the quality of provision of RDPs. At this stage of the project we do not recommend threshold levels for the standards or how funding should be linked to the achievement of the standards. We do include indicative values[1] for each standard, to encourage institutions to use the framework to consider their RDP provision and to form a platform for further discussion across the sector. We also recommend how the framework of standards could be implemented in a way that supports institutions in improving practice.

Throughout this report we make reference to 'units' of research within an institution. In this context units should be taken to be institutionally defined cognate areas of research, which may be faculties, schools, departments, specific groups or areas of research. The word 'unit' should not be assumed to define Research Assessment Exercise (RAE) units of assessment, unless that is seen as an appropriate definition for a particular institution.

Within the report we concern ourselves only with the activities unique to RDPs. We have assumed that institutions subject their RDPs to the same requirements and scrutiny as undergraduate programmes, with respect to legal obligations and government initiatives such as ensuring equal opportunities and access.

Recommendations are noted as they arise from report findings and are summarised in Section 1. As the terminology for RDPs differs across the sector, a glossary of the intended meanings of terms used in this report and the framework is included as Annex A.

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[1] For ease of presentation, particularly within the framework standards, we refer only to indicative timescales for full-time degrees. We have assumed that equivalent threshold timescales will need to be identified for part-time degrees.

3. Background

In concert with the increase in undergraduate and postgraduate taught provision, there has been a considerable expansion in doctoral provision. Between 1996 (10,800) and 2000 (13,670) there was a 27% increase in the number of doctorates awarded by UK institutions.[2] The percentile distribution across the sector is very skewed. Of 129 institutions awarding at least one doctorate in 2000, 25% of doctorates were awarded by just five institutions, while 97 institutions accounted for another 25%.

Alongside the increase in numbers, over the last decade there has been an increase in the diversity of structure and provision across disciplines and doctoral programmes. This includes the provision of professional doctorates, new route PhDs, practice-based programmes in creative arts and design, and PhDs by publication. Some of the highest growth rates in doctoral provision between 1996 and 2000 are from the emerging disciplines, such as creative arts and design (138%), librarianship and information science (78%), and education (81%), that do not have a tradition of PhD training to build upon.

The sector has recognised that these trends have increased the need for institutions to assure the quality of their training programmes and the consistency of the doctoral qualification. Considerable attention has been paid to improving RDP provision both by individual institutions and by encouraging dialogue and debate across the sector.

This project originated from the recent fundamental reviews of the policies and methods for the funding and support of research instigated by the HEFCE, SHEFC and HEFCW. They all made significant recommendations concerning research degree provision.

In England, the fundamental review of research policy[3] made several recommendations related to postgraduate research training:

- research training should be the subject of a separate, but linked, assessment process to the RAE, and funding should be calculated and identified separately from the funding provided for research
- the HEFCE, together with the Research Councils and other stakeholders, should develop minimum requirements which departments would need to satisfy in order to be eligible for funding for postgraduate research student training
- collaborative arrangements should be established to enable units to meet all aspects of the postgraduate research training requirements, where they might not be able to do so alone.

In the subsequent consultation process[4] most respondents supported the separation of funding for research training from funding for research, and supported the development of minimum standards.

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[2] Millichope, R. HESA, *Doctorates awarded from United Kingdom higher education institutions*, Statistics Focus, Vol 3, Issue 2

[3] HEFCE 00/37 'Fundamental review of research'

There was a general feeling that the quality of the research training environment was not simply a function of department size or RAE rating.

In Scotland the review 'Research and the Knowledge Age' and subsequent consultations[5] shared the view that much still needed to be done to improve the quality of research training. They concluded that there may be merit in strengthening the training of postgraduate research students by establishing national criteria for the standards of training and supervision, including for the facilities and environment in which students undertake their research.

In the Welsh 'Review of Research',[6] research training was recognised as one of the most important functions of the research base, and trained researchers arguably as its most significant output. There was strong support for recognising the centrality of postgraduate research (PGR) students to the wider research environment by merging existing channels of funding. The HEFCW affirmed its intention to join discussions at UK level on the development of minimum requirements that will need to be satisfied in order to be eligible for PGR funding.

Across the sector there was apprehension about the potential for generating additional administrative burdens by separating out research training, but also a recognition of the potential to reduce burdens by co-ordinating existing quality assurance procedures with the Research Councils and the Quality Assurance Agency (QAA).

4. Project aims

Following the consultation, the Funding Councils announced their intention, in partnership with Research Councils and other bodies, to consider in more detail the characteristics of good practice in PhD provision, with a view to determining the role threshold standards and conditional funding could play in driving improvement throughout the UK HE sector.

A three-phase project was commissioned:

- Phase 1 – a review of good practice in HEIs and the requirements of research funders, and identification of indicators that might form the basis of threshold standards
- Phase 2 – developing, in consultation with all interested stakeholders, these indicators into threshold standards and determining how such standards might be deployed
- Phase 3 – assessing the costs of implementing such a system and possible funding models to support it.

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[4] HEFCE 01/17 'Review of research: report on consultation'

[5] www.shefc.ac.uk/content/shefc/research/ResearchReview/research.htm

[6] HEFCW W00/8HE 'Review of Research Policy' and subsequent consultations, W00/76HE, W01/76HE

A steering group drawn from the sector (Annex B) was set up to advise the chief executives of the HEFCE, HEFCW and SHEFC on the practical means of implementing the reviews' recommendations. It was asked to advise upon the feasibility of any proposals with reference to the following objectives:

- delivering improvement in provision
- compatibility with the sustainability of the research base
- providing information for potential students
- providing sufficient flexibility to allow HEIs to innovate
- minimising administrative burden.

Increasingly, the academic sector is competing in a global market for students and funding. RDPs are becoming more diverse in both substance and length. The range of research degrees, together with part-time and full-time modes of study, is increasing student choice, whilst making it increasingly difficult to define the PhD degree. Furthermore, every research degree is a unique experience dependent on the relationship between student and supervisor/team. By the very nature of these inter-relationships it is extremely difficult to ensure consistency of quality for all postgraduates, even within an institution.

Our aim is to improve standards so as to ensure consistency across the range of RDPs. In doing so we do not wish to remove from institutions the possibility of flexible and innovative approaches to research degree study. The aim is to encourage institutions and units to improve the quality of their RDP provision and the monitoring thereof, not to inhibit them from providing research training.

We also wish to ensure that students and supervisory teams are aware of their relative responsibilities within the RDP, and particularly that students have a clear understanding of the expectations of the RDP. These include the institutional requirements, the challenges they are likely to face, the facilities and resources available to them, the opportunities for broadening knowledge and training, and where guidance can be sought.

Students often readily admit that they failed to appreciate the implications of undertaking an RDP. The aim is to encourage the development of research training environments where students are informed, empowered and take ownership of their research programme.

5. Methodology

This report presents the outputs from phase one of the project, which was to review the current provision and quality assurance systems for RDPs, identify examples of good practice, and to produce a series of indicators that might form the basis of threshold standards.

Further stages of the project will involve the development of these indicators into threshold standards, in consultation with all interested stakeholders; consideration of how such standards might be deployed and achievement monitored; and possible funding models.

To understand the current provision of RDPs, the existing quality assurance, monitoring and regulatory systems, and to identify examples of good practice, we collated baseline data through survey and undertook interviews, visits and workshops with the academic community, major funders of research students and other stakeholders.

We supported this with a review of the QAA continuation audits reports with respect to RDPs, and a web-based search of current literature and selected overseas institutions.

The basis of the framework of standards emerged from practice observed in the sector. We found many examples of good practice at both institutional and unit level across the breadth of the framework. It was developed and refined through two workshops attended by representatives from the sector and other interested parties, and through contributions from the project steering group.

The high level of commitment to providing quality RDPs was clear from our visits to institutions and from the workshops. The discussions and contributions to the development of the framework were searching and insightful. There was a high level of agreement about the desire to improve standards and a surprising consistency in the identification of standards.

Annex C gives a more detailed description of the methodology.

6. Sector position

It is clear from our visits to institutions and from the responses to the survey that improving the quality of RDPs is on the agenda for most, if not all, institutions. Implementation of recommendations from the Funding Councils' reviews of research and related reports, and the Research Councils' drive to improve completion rates for research degrees have seen standards improve significantly across the sector in the last decade. Increasingly, institutions are aware of the need to provide a broader range of training to suit individual needs and of institutional responsibilities to postgraduate research students.

6.1 Baseline of current practice

We were asked to identify a baseline of current practice for RDPs. This was conducted through a two-part survey looking at institutional structures to assure the provision of RDPs (part A) and operational practice (part B). The key findings of the survey are highlighted below and mapped against the framework of standards.

Additionally, we visited nine institutions to better understand the process of RDP delivery and to identify examples of good practice, gain the views of academic and administrative staff and students, and indirectly to validate the survey results.

6.2 Institutional practice

Overall we found that the majority, if not all, institutions have comprehensive regulations and procedures for the recruitment of students, examination of the PhD, and appeals and complaints mechanisms for RDPs. Many institutions, particularly those with an overarching management structure for RDPs, also specify institutional requirements for the research environment, supervisory arrangements, review of progress and skills development.

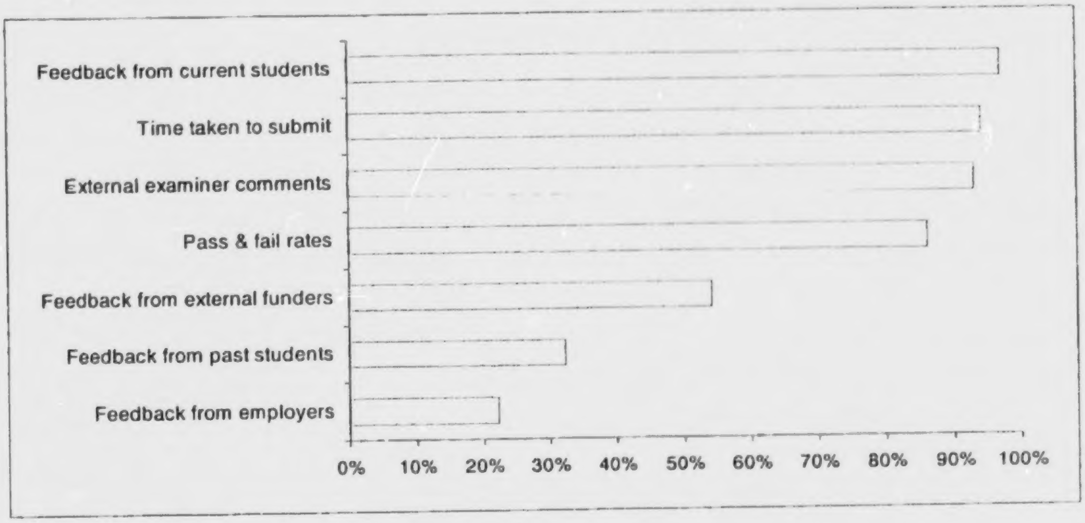
Respondents to the survey divided equally between those with an institution-wide graduate school or equivalent responsible for RDPs (53%), and those with devolved responsibilities to discipline-based units, i.e. faculty, schools or departments (47%). We noted in our visits that institutions with an overarching structure are more likely to have consistency of regulations and mechanisms to assure their implementation. Furthermore, they are more likely to provide a programme of courses and activities that are accessible to all research students.

Review of the QAA continuation audit reports (Annex F) reveals that devolving responsibility for RDPs involves an element of risk for the institution in maintaining quality and standards. Devolution leads to diversity, which may stimulate richness and variety, but may also lead to incompatibility between procedures and regulations. However, devolved responsibilities are considered to be unproblematic when there are strong central regulations, such as an institutional code of practice for RDPs and excellent procedures for monitoring variations in provision.

Several key observations emerged from the survey:

- almost all respondents (93%) have a code of practice for RDPs in place; most of the remainder (5%) are in the process of producing such a code within a year
- 87% of respondents claim that their code of practice does not vary significantly from the QAA code. Of the remainder, several claim their code to be more rigorous
- 64% of respondents monitor the effectiveness of their code annually or more frequently; 16% do so 'as required'.

Table 1: Factors feeding into institutional quality assurance mechanisms for RDPs (% respondents)



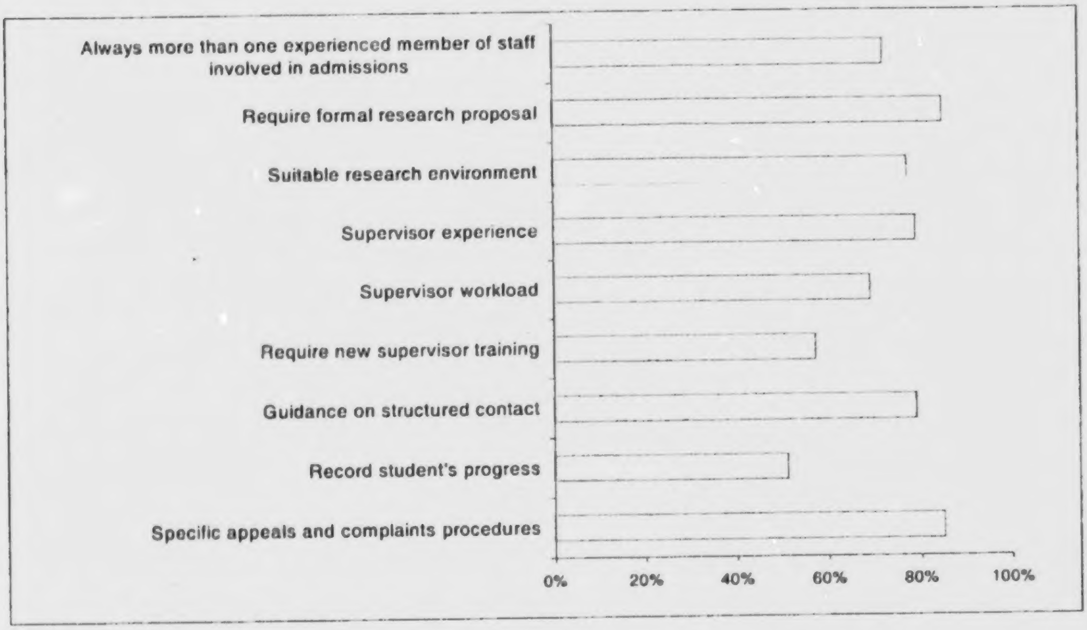
Most institutions (85-98%) use feedback from students and external examiners, and submission and pass rates in their mechanisms to assess the quality of RDPs (Table 1).

A much smaller number (20-50%) use feedback from external sources such as postgraduate funding bodies, employers and past students. In part this is due to the time and cost involved in operating these feedback mechanisms. Several institutions stated they would like to see a system of independent exit interviews for students, but have found it difficult to identify the best timing for such an exercise and to find sufficient resources.

6.3 Operational practice

Virtually all respondents to part A of the survey (95%) also responded to part B on operational practice within RDPs. One-fifth provided multiple responses (2-40) from more than one unit within the institution. Most aspects of the RDP are either specified by the institution or the operating unit (Table 2). One notable exception is that only 51% of respondents specify the formal recording of student progress.

Table 2: Specified aspects of RDPs (% respondents)



Recruitment procedures are generally institutionally specified (85%): typically they involve interviews with more than one academic member of staff on the interview panel (79%), and usually references are followed up (91%). Overseas candidates who cannot attend an interview at the institution are likely to be assessed by video or telephone interviews (31%), or in-situ by a local agent (15%).

Three-quarters of respondents (77%) specify the research environment suitable for training. They state the following as defining factors: appropriate infrastructure and facilities, the research activity and reputation of the unit, suitably qualified supervisors, level of contact and access to programmes of seminars, and a critical mass of researchers.

Nearly all (94%) have criteria for supervisory arrangements; 78% specify the experience required. Several respondents (15%) specified one or more prior completions before becoming the main supervisor. Only a few respondents mentioned having a PhD as a requirement to supervise.

Over half (57%) of all respondents require training for new supervisors and many mentioned the provision of mentoring support and good practice workshops; 24% require training for all supervisors. This topic created considerable discussion in the workshops. Everyone acknowledged the potential value of supporting all supervisors: the challenge is providing this in a way that gives benefit to more experienced supervisors.

With regard to guidance on supervisor workload, 25% of respondents specify a maximum number of students (3-10) where the academic is registered as main supervisor. The majority of respondents define the frequency of contact with students (79%), and 51% specify procedures for recording meetings, 33% requiring a formal report or logbook.

The development of research-related skills is well embedded in most institutions, with many institutions/units providing compulsory or credit-rated research training programmes (Table 3).

Approximately half of all respondents state their research training programmes relate to the Research Councils/AHRB joint statement of skills requirements (Annex G) which describes a range of competencies they would expect their funded postgraduates to develop during their RDPs.

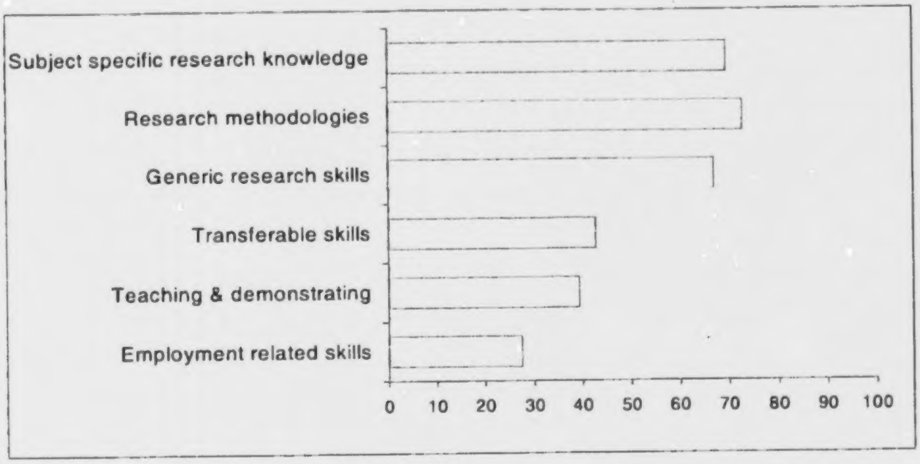
Table 3: Provision of compulsory or credit-rated training programme

Area of skill development	**% respondents**
Subject-specific research knowledge	40%
Subject-specific research skills, eg research methodologies	56%
Generic research skills, eg project management, academic writing skills	58%
Transferable skills, eg team working	33%
Employment-related skills, career planning, CVs, interview techniques	20%

Students are most likely to receive directly research-focused training such as research methodologies and subject-specific knowledge, and generic research skills such as project management. Over two-thirds of respondents state that more than 50% of their students receive training in these areas.

Students are less likely to receive training in transferable skills such as teamworking, and particularly employment-related skills such as career planning, CVs and interview techniques. In only 27% of the respondent institutions will more than 50% of students receive formal career management support (Table 4).

Table 4: Respondents providing training to more than 50% of students (%)



6.4 Examples of good practice

During our visits, workshops, survey and interviews we observed many examples of good practice in RDPs both in the UK and overseas. We have used these and our experience of RDPs to develop the framework and standards.

In Annex H we provide specific examples of how selected institutions/units achieve quality within their RDPs mapped against the framework of standards. The examples are not given as 'best' practice, but rather to illustrate how particular institutions have chosen to implement elements of their RDPs to achieve a quality product.

We were able to visit only a small number of institutions during the course of the project and most of our examples of good practice relate to these visits. This is not meant to imply that good practice exists only in these institutions; rather we hope that these few examples will encourage institutions to share further examples of good practice for the benefit of the sector as a whole.

We also examined practice in Australia, Canada, France, Sweden and the US. Annex I provides an overview of these doctoral programmes and selective examples of institutional good practice. UK PhD students and training programmes are regularly compared in particular against US practice.

It is interesting to observe that debate in the US[7] around doctoral training is consistent with that in the UK:

- an increasing number of PhDs are chasing decreasing numbers of full-time academic positions
- a concentration on research training is not equipping PhDs to perform other faculty roles, especially undergraduate teaching
- non-academic organisations require highly skilled employees, yet many PhDs struggle to make the transition from academia.

We also include a selected list of relevant literature on current practice and debate within RDPs as Annex J.

7. Framework of quality standards

The principal output from this phase of the project is a framework to assure quality in the provision and delivery of standards across all aspects of the RDP. The structure of the framework builds on the QAA code of practice for postgraduate research programmes[8], a document that has been adopted by over 93% of institutions as the basis of their institutional code of practice.

The QAA code identifies a set of precepts that it expects institutions to address effectively through their quality assurance processes, procedures and regulations. In common with most codes, the QAA code stresses that it is not intended to be prescriptive. However, neither is performance against its precepts measurable.

Our concern is to develop a framework of threshold standards, achievement of which could be a necessary condition for funding. To achieve this we have built on these precepts to develop measurable standards reflecting actual practice in the sector.

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[7] At Cross Purposes: What the experiences of doctoral students reveal about doctoral education (www.phd-survey.org).

[8] Quality Assurance Agency for Higher Education Code of Practice for the Assurance of Academic Quality and Standards in Higher Education: Postgraduate Research Programmes

7.1 Framework descriptions

Within the framework we identify eight inter-related elements of an RDP:

1. Institutional arrangements to bring together the elements of the framework into a code of practice that is monitored and reviewed
2. Research environment appropriate for offering RDPs
3. Selection, admission, enrolment and induction of students
4. Supervisory arrangements
5. Initial project approval and subsequent progress through the RDP to examination
6. Development of research and other skills
7. Feedback mechanisms to inform quality assurance processes
8. Appeals and complaints mechanisms.

The full framework is presented as Annex D. For each section we identify good practice and highlight the standards that we believe are important in ensuring consistent academic standards in RDPs (column 1).

We further identify how these academic standards translate into the responsibilities of the supervisory team (column 2) and the student (column 3). We believe it is crucial to the successful outcome of the RDP for the supervisory team and in particular the student to understand and acknowledge their respective roles. We encourage institutions to follow the good practice of many institutions by incorporating these responsibilities within documents targeted specifically to each audience, for example as ‘guidelines for postgraduate students’.

We also identify the necessary requirements for good administrative procedures and regulations to deliver and assure academic standards (column 4).

Although the definition of minimum standards is for a later stage of the project, we include indicative threshold levels here (shown in square brackets) to illustrate potential requirements. For convenience these relate to full-time students. In the next phase of the project appropriate threshold levels will need to be agreed for conditional funding for both full-time and part-time students.

7.2 Use of inputs, processes and outputs standards

In this project we have not concerned ourselves directly with the principal output of the PhD, the thesis as an original piece of work. This is, rightly, the responsibility of the degree-awarding institution in assuring the quality of the thesis. In identifying quality standards we have considered the inputs (people, environment, facilities), the processes (how those resources are used), and the additional output measures that form the totality of the RDP experience.

In identifying standards we concentrate on achieving our aim to improve existing RDP provision through specifying the training environment, achieving consistency by raising the visibility of the process, protecting students by informing and empowering them, whilst still being flexible enough to meet the demands of an increasingly diverse range of RDPs.

The framework standards are discussed below and summarised as Annex E.

7.3 Training environment

We identify a range of indicators (and indicative thresholds, shown in square brackets) that relate to aspects of the training environment (Table 5).

Although the quality of the research environment is not the only factor in providing quality research training, it is an important element. The use of RAE ratings as one of the identifiers of the research environment was the subject of much debate in the workshops. The RAE is widely seen as a blunt instrument, in that it measures a fixed point in time and the RAE units of assessment do not map perfectly onto institutional 'units' of research.

However, the RAE is at present our only national measure of the research environment. To use the inputs that inform the RAE – such as research active staff, publications, grants and funding – as potential indicators would create an unacceptable administrative burden on institutions. We believe that in the absence of an alternative measure of the quality of the research environment the RAE should be used as one of the indicators with the framework. We also believe that it would be inappropriate to define minimum standards for research degree programmes without reference to the research environment. It follows from this that there should be a threshold RAE level for funding alongside other standards. We recognise that this is not a purpose for which the RAE was designed and hope that the funding councils' review of the RAE will bear in mind the need for appropriate measures in proposing approaches to research assessment.

There was similar recognition in the workshops of the need to expose students to a critical mass of active researchers and other postgraduates. There was considerable debate over identifying appropriate standards and how these could be achieved for smaller units and institutions.

We expect and encourage units to develop collaborations within and outside the institution. For some subjects – such as nursing and allied subjects, or art and design – it may be necessary to develop collaborations at a national level to achieve critical mass. We develop this issue later in the report under section 9.1 'Implications for funding'.

Table 5: Standards relating to the research training environment

Numbers relate to the standards in Annex D. Indicative thresholds are shown in square brackets.

2A: RDPs in units with a minimum RAE rating [consistent with QR funding][9]

2B: Demonstrate a way of providing effective interactions within the unit/cognate area:
- with a minimum of [5] research active staff/postdoctorates
- between a group of at least [10] students

2C: Facilities for the research project, including library and IT facilities, should be available at or above the level needed for research of a [national] standard

6A: Provide training programmes to develop a range of skills and knowledge consistent with the joint statement of skills requirements by the Research Councils/AHRB, including skills for employment, and provide mechanisms to assess formally the development of these skills

6D: Minimum level of activities defined and monitored to promote breadth and depth of knowledge and experience by means of attendance at internal and external seminars, conferences, discussion forums, [twice annual] 'presentations', teaching and demonstrating experience

We have incorporated the Research Councils/AHRB joint statement of skills requirements (Annex G) into the framework as a useful description of the range of skills, knowledge and attributes against which institutions can map their programme of training courses.

We support the Research Councils/AHRB view that the needs of individual students will vary considerably, and many of these skills may already be present or developed during the course of the RDP. However, it is important that the institution provides a comprehensive training programme that is accessible to all students across the institution.

As part of the development of students' competencies, institutions should ensure that students have access to a range of seminars, conferences and workshops to extend their knowledge of their subject and develop their critical faculties.

7.4 Improving visibility

An important aim of the framework of standards is to increase the visibility of RDPs and provide mechanisms for monitoring and review procedures to allow institutions to assure the consistency of RDPs. These standards are presented in Table 6.

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[9] Mainstream quality-related (QR) research funding is currently allocated for RAE ratings of 3a and above in England and Scotland, 3b and above in Wales.

Table 6: Indicators to improve the consistency of RDPs

Recruitment of students

3A: Institutional minimum level of academic entry standard [2.1, masters, or institutionally defined equivalent assessment of prior (experiential) learning – APL/APEL]

3B: Selection process and admission decision to involve at least [2] experienced and research active academics, trained in admission processes

Supervision arrangements

4A: Provide a supervisory team consisting of at least [2], one of whom should be designated as the 'main' supervisor with overall responsibility for the student

4B: At least [2] members of the 'supervisory team' should be demonstrably research active academics with relevant knowledge and skills to supervise, and with defined roles

4C: At least [1] member of the supervisory team to be from a minimum [3a] RAE rated department

4D/F: The 'main' supervisor should have had experience of at least [1] successful supervision within a supervisory team and should take prime responsibility for a maximum [8] students

4F: Training should be institutionally specified and compulsory for [new] supervisors

4G: There should be structured interaction with the supervisory team to report, discuss and agree academic and personal progress at least every [3 months]. Outcomes of all such meetings to be recorded as agreed

Independent review and examination

5A: Progress should be subject to review by a panel of at least [3] research active and relevant academics, the majority of whom are independent of the supervisory team. At least one of the independent panel members should be from a minimum [3a] RAE rated department

5C: Final examination to be by a viva to an independent panel of at least two examiners who are research active in relevant fields, at least one of whom is an external examiner

5D: At least one of the examiners should be from a minimum [3a] RAE rated department. Each examiner to provide an independent report on the thesis prior to the viva.

Most institutions already have rigorous criteria and procedures for the recruitment of students. We recommend that all students should have a minimum academic qualification (or equivalent training/learning) and are assessed by more than one experienced academic before being offered a place on an RDP.

Although many institutions now require multiple supervision, it is not difficult to find examples of sole supervision. The supervisory relationship can be a very private one. In the majority of cases this is an extremely constructive and fruitful partnership, but there are times when relationships break down, with consequences for the student, the supervisor and the research. By specifying multiple supervision as one of the framework standards, we believe the increased visibility of this relationship with give added protection to students, supervisory teams and the institution.

The institution will need to consider the appropriate supervisory relationships for students working on multi-disciplinary or collaborative projects, particularly with input from external organisations such as industrial funders. For example, in cross-discipline projects with two supervisors from different disciplines it is important that the student does not act as the 'bridge' between the disciplines. In these cases it may be appropriate to have another 'independent' supervisor in the team.

Institutions should consider the appropriate supervisory environments for students from different cultural backgrounds, for example those that are uncomfortable working with supervisors of the opposite gender or are not familiar with having 'critical debate' with seniors. As one student noted in our visits, '*supervisors are in very powerful positions – they often don't realise the impact of their words on students'*.

We believe that alongside the use of supervisory teams, it is important for a student's progress to be subject to regular independent reviews throughout the training. These should be real hurdles, particularly at transfer or upgrade to a PhD. They require mechanisms for informing and supporting students who may not be able to reach the standard required for a PhD, for example by offering positive exit routes such as an alternative qualification.

7.5 Student protection

Our aim is to ensure students are informed, empowered and take ownership of their research programme. We have identified a series of standards relating to the induction of students, their personal development and their contribution to improving RDPs (Table 7).

Table 7: Indicators to increase students' understanding and ownership of their RDP

Recruitment and induction

3C: Open access to all relevant material on the web

3D: Formal offer letter should include:
- fees and charges
- period of study
- direction of study
- specific requirements
- other requirements

3E: Student and institution to sign up to an agreement on the learning outcomes of the RDP

3F: Provide a formal institutional induction process with monitored attendance

Need analysis and record of progress

6B: Student and supervisory team to identify and agree a training needs analysis against the joint Research Councils/AHRB statement of skills requirements, as part of the [induction] process. It should be reviewed [quarterly] to ensure needs are being met

6C: Student to maintain a jointly agreed record of personal progress

Feedback mechanisms

7A: Establish and operate confidential feedback mechanisms for:
- current students
- supervisory teams and review panels
- external parties, such as examiners, funders, collaborative organisations, employers, and alumni.

Incorporate this feedback into the regular review of academic standards and provide information on action taken in response

8A: Institution to arrange and publicise separate, fair, transparent, robust and consistently applied complaints and appeals procedures, appropriate to all categories of research students

It can be difficult for prospective students to access sufficient information to make informed choices of where to study. For example, not all institutions have key documents, such as their code of practice and student and supervisor guidelines, freely available on their web sites. In discussions with groups of students, this was a particular issue for applicants from overseas who generally found it harder to access information on RDPs in the UK than in other competing countries. UK-based students regularly stated that they preferred to remain in their current institution rather than risk a move to less familiar surroundings.

The relevant standards on recruitment and induction ensure students are provided with sufficient information to understand their responsibilities and those of the institution within the RDP.

Perhaps critical to students taking ownership of their RDP are the requirements to undertake a training needs analysis and to maintain a formal record of progress. We use 'training' in its broadest sense: it may encompass self-development, supervisory support, attendance at training courses and seminars, and so on.

All institutions provide a variety of student support mechanisms such as access to a postgraduate tutor, personal mentors, and student support services. However, many students are wary of raising issues to do with their project, particularly through official channels, for fear of being disadvantaged or stigmatised. A typical response from a student was: *'I don't trust the process enough to be confidential and make a difference'.*

Feedback from students, and other stakeholders, can provide valuable input to the quality assurance and improvement of RDPs. Concern was expressed that inviting feedback may only generate negative feedback: happy students mostly remain silent. We believe the majority of students will provide constructive feedback if they can see it makes a difference.

7.6 Institutional quality assurance procedures

The standards above are overlaid by institutional procedures to assure quality and to monitor outputs (Table 8). In the next section we discuss how these may relate to any external monitoring system.

Table 8: Institutional procedures

1A:	Institution's code of practice must meet, and preferably exceed, the standards in the framework
1B:	Institution to monitor, review and act on the application of the standards in its code, including the various standards set out in this document
1C:	Institutional and unit performance to be monitored [annually] on progress and attrition against agreed targets, including for gender and ethnic groupings: - submission rates [80% within 4 years] - average time to submission - completion rates [80% within 4.5 years] - level of appeals, complaints - student feedback
5B:	Institutional procedures and time limits to be set and unit performance monitored for initial review and subsequent progress covering: - initial review [within 12 months of 'enrolment' and confirm continuation/upgrade to a PhD] - [annual] review process - implications of the possible outcomes of each assessment - criteria for deciding suspension or termination of a student's registration

Our recommendations of standards and the supporting good practice within the framework come from practice observed in the sector in the delivery of RDPs. Many institutions already achieve the indicative minimum standards in part, if not in full. The aim of the framework is to encourage institutions to exceed the minimum standards. We expect that institutions will continue to develop their RDPs and threshold standards will continue to increase, such that within five years what is now good practice will become minimum standards.

Recommendation 1: the Funding Councils adopt the framework and define threshold values for standards as the basis for conditional funding for RDPs.

7.7 Institutional self-assessment

We support the academic sector's view that any assessment process for RDPs should be principally institutionally driven, albeit with external mechanisms to monitor compliance. For a quality assurance system to be most effective it should focus on improvement through promoting a self-critical and reflective style of working, rather than being an externally driven assessment. By the Funding Councils encouraging self-assessment and ownership of the standards, they are most likely to result in real improvement in quality.

We believe that the value of these indicators will be recognised by the sector. Institutions will strive to exceed them to maintain and improve their position in the UK and against international competition.

Recommendation 2: institutions should be given responsibility for assessing and providing evidence of the achievement of standards and quality of RDPs.

7.8 External monitoring

That is not to say that the Funding Councils should not overlay any self-assessment system with external monitoring such as periodic or random checks. This should build on existing processes such as the use of peer assessment as in the QAA continuation audits, as an adjunct to the RAE assessment, or possibly through the Research Councils' assessment processes for discipline-specific monitoring.

Although the implementation of threshold standards is the subject of later stages of this project, we would recommend that the Funding Councils consider a 'light touch' with respect to external monitoring through a process that reviews the quality assurance processes of the institution rather than the provision itself.

For example, SHEFC has proposed a move to an enhancement-led approach[10] to quality assurance for learning and teaching from 2002-03, on the principle that institutions are best placed to monitor and ensure the quality of provision through internal review processes, and that the proposed arrangements would significantly reduce the burden of external audit. The same holds true for

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[10] HEC 02/2002 'An enhancement-led approach to quality assurance'

RDPs: there is potential to develop a consistent monitoring approach for both teaching and research programmes.

Recommendation 3: the Funding Councils should consider adopting an external monitoring system that monitors the quality assurance processes of the institution for RDPs.

7.9 Fit with Research Council requirements

The Research Councils and the AHRB are major funders of full-time UK doctoral students in UK institutions. Each has adopted differing methods of allocating postgraduate funding, ranging from 'student-driven' competition for the AHRB through to the Engineering and Physical Sciences Research Council's (EPSRC) Doctoral Training Grants, allocated principally against grant income. The Economic and Social Research Council's (ESRC) pre-recognition exercise – which requires institutions to demonstrate they have a suitable existing training programme prior to receiving funding – was cited by several institutions as a useful catalyst in improving provision.

Despite these variations in approach, the specific factors taken into account by the Research Councils and the AHRB in making funding decisions are generally consistent with the standards in the framework. One principal difference from the framework is that all the Research Councils and the AHRB rely on various systems of peer review for assessing the suitability of the research environment and/or project. Only the Biotechnology and Bio-Sciences Research Council (BBSRC) and the Natural Environment Research Council specify a minimum RAE rating as a criterion for funding. The others see the RAE rating as 'double-counting' their peer review systems or the RAE units of assessment as being too broad to identify pockets of excellence. In theory the other Councils (EPSRC, ESRC, Medical Research Council (MRC), Particle Physics and Astronomy Research Council) and the AHRB can offer funding to a unit with an RAE rating below 3a (3b in Wales), although in practice this rarely happens. Most funding by all Research Councils goes to units rated 4 and above. For example, more than 97% of AHRB, 96% of BBSRC and 95% of MRC studentships are currently in units with an RAE rating of 4 and above.

An area where the Research Councils and AHRB take a consistent approach to postgraduate training is in the definition of the competencies required of a postgraduate student. This is formalised in the Joint Research Councils/AHRB statement of skills requirements, published in 2001 (Annex G).

The Research Council/AHRB procedures for assessing the quality of RDPs mapped against the framework are presented in Annex K.

The Research Councils/AHRB, along with the Wellcome Trust, support the aims of this project and have stated their intention to consider the Funding Councils' threshold standards as the basis on which to build their specific discipline research training requirements. They have also stated an intention to consider, where appropriate, the same threshold standards for their institutes that are not supported by the Funding Councils.

Recommendation 4: the Funding Councils jointly work with the Research Councils/AHRB and other major stakeholders to agree and adopt common threshold standards as a condition of postgraduate funding.

8. Implementation

8.1 Implications for institutions

Any attempt to identify minimum threshold standards for conditional funding will be prescriptive to some extent. HEIs wishing to have funded provision for research postgraduates will need to establish that they are at least meeting the threshold standards.

We believe there is sufficient flexibility within the standards for institutions to incorporate them in their codes of practice in a way that best meets their particular needs and those of their units. Our intention is that institutions will work with individual units to define appropriate standards that conform to the spirit of the framework to improve practice.

There are many units and institutions that already exceed many, if not all, of the standards. It is not our intention that 'minimum' standards are interpreted as 'acceptable' standards. Rather, we expect that as practice improves and the baseline moves towards good practice, the Funding Councils will progressively review their definitions of the thresholds.

For institutions where some or all units do not meet all threshold standards there will be institutions who:

- Can find ways to improve the provision in some units to bring them above the thresholds
- Through working together with one or more other institutions or external organisations, will be able to exceed the thresholds in some units
- Will not have the capacity (and/or the inclination) to exceed the thresholds in some or all units even working in conjunction with partners.

It will be for institutions to identify into which category each of their units falls, and to decide upon appropriate courses of action. The consequence of these decisions will obviously affect the level of postgraduate funding.

Where institutions cannot or decide not to reach the minimum standards within some or all units, then a necessary effect of implementing conditional funding is that these units will not be eligible for postgraduate funding from the Funding Councils. However, the Funding Councils have no intention, or indeed authority, to prevent an institution from providing RDPs within these units.

For those institutions who state their intention to bring their provision above the threshold standards, where necessary we recommend that the Funding Councils should continue to provide 'bridging' funding over an agreed period to allow the institution time to improve.

8.2 Collaborative arrangements

For those institutions/units unable to meet the minimum standards, there is the option to arrange collaborative agreements with other units (both internal and external to the institution) to achieve, and preferably exceed, the minimums.

For institutions that cannot meet all standards through internal provision, for example by providing critical mass in a cognate area, we support the development of collaborative arrangements with other organisations. These may be within or between institutions at a national or local level, or with non-academic institutions such as learned societies and industrial organisations. Where collaborative arrangements are set up to achieve a critical mass of students, or access to facilities, seminars and so on, we would expect the arrangements to be reasonable in terms of travelling, and for the institution to provide students with access to funds to cover additional expenses.

We expect that some will wish to go further and set up inter-institutional, or regional collaborations. Several examples of these are already in operation. For example, the Scottish Doctoral Programme in Economics provides a single site Masters to serve the PhD programmes for eight Scottish institutions. During the PhD there is continuing interchange between the postgraduate community at a series of seminars and weekend reading parties. The White Rose Consortium of the Universities of Leeds, Sheffield and York provides access to generic skills training across the three institutions.

Of particular concern are the needs of emerging disciplines – such as nursing and allied subjects, art and design, library and information management – where there may be insufficient numbers of academics or students to form effective collaborative arrangements, even on a national basis. In the implementation stage of the project the Funding Councils should consider developing specific initiatives to support emerging disciplines to achieve the threshold standards for their RDPs, rather than exclude them or lower standards.

Recommendation 5: the Funding Councils should consider developing specific initiatives to support emerging disciplines.

8.3 Diversity of provision

We have considered the current diversity of RDPs in both length and structure within the context of the framework. We believe that the standards are sufficiently generic to be applicable across all RDPs. We expect that institutions, the Research Councils or other stakeholders may want to overlay the framework with specific, possibly discipline-related, requirements.

Although the framework is equally applicable to part-time students, when identifying the thresholds the Funding Councils may want to consider whether there are standards more directly relevant to such students. For example, in the framework we identify as good practice that students should have access to any training programme across the institution. For part-time students good practice will entail also providing training in a variety of ways and times to suit their needs, such as on-line, evenings and weekends.

We would further expect institutions to ensure that the provision of their RDPs is within the scope of their institutional equal opportunities policies, and therefore subject to similar monitoring procedures with respect to applications, enrolment, completion, and complaints.

9. Next steps

We have recommended that the Funding Councils adopt the framework of standards for improving the quality of RDPs. One challenge for the next stages of this project will be to develop a funding mechanism based on this framework that also achieves our aim of minimising any additional administrative burden on institutions. It may be necessary to identify a set of 'key' standards within the framework, the achievement of which is a condition of funding. However, we would still expect institutions to be able to demonstrate on request that they have adopted the framework within their code of practice, and are achieving all the threshold standards.

We endorse the three Funding Councils' decisions to collaborate on this the first stage of the project. Whilst we recognise there may be local conditions that may prevent this, we would further encourage the individual Councils to work towards a consistency of approach in both the definition of threshold standards and the implications for implementation and funding.

Furthermore, we would stress the importance of ensuring that the Research Councils/AHRB and other major stakeholders agree to endorse and implement the threshold values for their studentships.

Recommendation 6: the Funding Councils should agree a co-ordinated approach to the definition of threshold standards, implementation mechanisms and funding implications.

9.1 Implications for funding

Although funding mechanisms differ to some extent across the three Funding Councils, they all operate direct funding for postgraduate training programmes through the research training/supervision fees model.[11] Only units that qualify[12] for quality-related research funding (QR) receive funding for postgraduate research training, which is allocated on a flat rate per postgraduate student (subject to a 'cost of research' weighting). The funding available is small: 8 -12% across the three Funding Councils of the total available through mainstream QR research funding.

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[11] In England, research postgraduates in year one (full-time) are funded through the teaching funding model. This funding is not subject to a minimum RAE threshold. The appropriateness of this approach should also be reviewed as part of the total postgraduate funding mechanisms.

Scotland is transferring the funding of postgraduate research training from the teaching funding stream to the main quality research grant from August 2002.

[12] RAE rating 3a and above for England and Scotland, and 3b and above for Wales.

Mainstream QR funding is heavily weighted by RAE rating and, although not directly related to postgraduate training, contains postgraduate numbers within the funding algorithm.[13] Including a postgraduate volume measure as one of the factors for QR funding may encourage institutions to increase numbers, with potential implications for the quality of provision.

For example, in England the HEFCE allocates more than double the funding through the postgraduate volume measure for QR funds (£145M) than through supervision fees (£67M). As QR funding is weighted by RAE rating, higher rated units have significantly more to gain from driving up postgraduate numbers.

Due to a lack of information, we do not know whether the current funding levels through these mechanisms adequately reflect the total cost of postgraduate training. It is certain that they do not provide sufficient, if any, incentive to improve the quality of the research training environment.

To improve the quality of RDPs, the Funding Councils need to provide funding incentives that drive quality and not just volume. The Funding Councils should consider removing postgraduate numbers as a volume measure in QR funding. Furthermore they should explore the implications of funding for postgraduate research training that more directly reflects the cost of that training.

Recommendation 7: the Funding Councils should consider revising the funding and allocation mechanisms to more directly reflect the cost of postgraduate training.

We have identified that some units and emerging disciplines may need to develop collaborative arrangements to meet thresholds. Other institutions or units may require time and appropriate bridging mechanisms to achieve standards. The Funding Councils will need to consider the funding implications of supporting these arrangements. It may be appropriate to extend the current funding initiatives that support collaborative projects and developing research potential such as the Scottish Research Development Foundation Grant[14] scheme and the Welsh Pockets of Quality Initiative.[15]

Recommendation 8: the Funding Councils should consider the funding implications of supporting the development of collaborative arrangements or bridging mechanisms.

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[13] QR funding is allocated principally according to RAE scores and a volume rating that includes numbers of research active staff, research assistants and fellows, postgraduate students and levels of charitable income.

[14] Scotland's Research Development Grant scheme particularly supports research proposals that takes interdisciplinary and collaborative approaches, from institutions who have had limited opportunities to create centres of research strength, and emerging subject areas.

[15] Wales's Pockets of Quality Initiative is to strengthen pockets of quality research to enable the departments concerned to improve their standing in future assessments of research and to increase their level of public funding for research.

9.2 Monitoring mechanisms

We have recommended that in the next stage of the project the Funding Councils consider developing a monitoring system for the quality assurance processes of the institution, rather than directly assessing the RDP provision.

Within the quality indicators, we specify that institutions record and monitor a series of outcomes such as submission rates, completion rates, and student feedback responses. Most, if not all, of these outcomes are also of interest to the Research Councils, other funders and national bodies. To standardise data collection and avoid duplication of effort we recommend the Funding Councils agree with the major stakeholders a common data set and monitoring system for outputs. stakeholders.

If these outputs were collected on a national basis – for example through the Higher Education Statistics Agency (HESA) First Destination Survey,[16] or as part of the (HEFCE) project on information on quality and standards in higher education[17] – this would reduce the burden on institutions and allow the production of consistent data. For example, both HESA and the Research Councils require institutions to provide data on completion rates and first destinations for their funded students; these are currently collected through different mechanisms with resultant incompatible data sets. Initial consultations with both bodies indicate potential to access data for both Research Councils' and Funding Councils' requirements through the HESA system.

The Funding Councils should consider gathering student feedback at a national level through a web-based feedback mechanism, such as the Contract Research Online Survey (CROS) project[18] for contract researchers, which also allows institutions to customise the data collection for their own use.

These systems could be supported by a programme of targeted and/or random peer group monitoring visits so that institutions can demonstrate that they are an example of good practice. These visits would also provide constructive feedback to support and reinforce a cycle of continuous improvement, and be a vehicle to identify and share good practice across the sector.

Recommendation 9: the Funding Councils should agree with other major stakeholders a common set of outputs and monitoring systems for RDPs.

9.3 Sector consultation

The implementation of this project and its implications for postgraduate funding represent a major opportunity to influence the quality of postgraduate training in general. It will bring RDPs in line with quality assurance mechanisms familiar at undergraduate level.

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[16] HESA 01/01-03 First Destinations Circulars

[17] HEFCE 02/15 Information on Quality and Standards in Higher Education

[18] CROS: University of Bristol, http://www.ilrt.bris.ac.uk/cros

Inevitably, there will be implications for the academic sector and stakeholders. Although we have consulted with representatives from across the sector and with major stakeholders, we recommend that the Funding Councils undertake a full consultation exercise before phases two and three.

Annex A

Glossary and abbreviations

Allocations of staff time: system employed by the institution to recognise work effort and allocate resources of staff time between tasks.

APL/APEL: assessment of prior learning (APL) and assessment of prior experiential learning (APEL) are mechanisms by which certified and uncertified learning is assessed against admission requirements.

AHRB: Arts and Humanities Research Board (see also Research Councils).

Collaborative projects: involving more than one person working on aspects of a project within and between academic and non-academic institutions.

Enrolment: entering an individual student on the institution's records system, taking fee payment, etc.

Funding Councils: the bodies responsible for funding higher education in England, Scotland and Wales, namely the Higher Education Funding Council for England (HEFCE), the Higher Education Funding Council for Wales (HEFCW), and the Scottish Higher Education Funding Council (SHEFC).

Head of department: member of staff with responsibility for resources (human and physical) within a defined area of the university's structure.

HESA: Higher Education Statistics Agency

Induction: defined programme to introduce students to the institution, its facilities and the particular circumstances pertaining to research students.

Interdisciplinary projects: involving work that crosses the traditional boundaries between academic disciplines.

IELTS: the International English Language Testing System used as an entrance requirement to degree programmes for students with English as their second language.

Presentations: opportunity for students to present and defend their work and receive critical feedback.

Progression: the progression of a student from one phase to another of a named award (eg, from year one to year two).

QAA: Quality Assurance Agency for Higher Education

RAE: Research Assessment Exercise, carried out every 4-5 years, to assess the quality of research by peer review, producing ratings on a scale of 1 to 5*. This rating is one of the main factors in allocating funding for research to institutions.

RDP: research degree programmes – used to cover all aspects of the student experience from recruitment and induction, supervision, skills development, through to assessment for any higher research degree.

Registration: registering a research degree programme as acceptable within the institution's regulatory framework.

Research Councils: the six Research Councils are government funded through the Office of Science and Technology to support research in particular fields, in both their own establishments and in higher education establishments. They are: the Biotechnology and Bio Sciences Research Council (BBSRC), the Economics and Social Research Council (ESRC), the Engineering and Physical Sciences Research Council (EPSRC), the Medical Research Council (MRC), the Natural Environment Research Council (NERC), and the Particle Physics and Astronomy Research Council (PPARC). A similar role is performed for the arts and humanities by the Arts and Humanities Research Board (AHRB).

Transfer/upgrade: the movement of a student from one form of registration (typically MPhil) to another (typically PhD).

Unit: an institutionally defined cognate area of research, which may or may not relate to an RAE unit of assessment.

Annex B

Steering group membership and terms of reference

Membership

Professor Roland Levinsky (chair), Vice-Provost and Head of Graduate School, University College London

Professor Richard Balment, Dean for International and Graduate Education, University of Manchester

Professor Mary Bownes, Institute of Cell and Molecular Biology, University of Edinburgh

Mr Robson Davison (observer), Department for Education and Learning, Northern Ireland

Dr Jonathan Grant, Head of Policy, The Wellcome Trust

Mr Richard Hancock, Head of Research Policy, SHEFC

Ms Ann Hughes, Head of Funding, HEFCW

Professor Stuart Laing, Director of Academic Affairs, University of Brighton

Mr John Rushforth, Head of Research Policy, HEFCE

Mr Tom Sastry (project manager), Policy Officer, HEFCE

Mr Phil Sooben, Head of Postgraduate Training, ESRC

Professor Stephen Tomlinson, Vice-Chancellor of the University of Wales College of Medicine

Consultancy team

Dr Janet Metcalfe (project manager) educational consultant

Mr Quentin Thompson, educational consultant

Professor Howard Green, Chair, UK Council for Graduate Education (UKCGE) and Dean of Graduate School, Staffordshire University

Professor Stuart Powell, UKCGE Executive Committee and Dean of Research, University of Hertfordshire

Dr Hichem Trache, Lecturer, University of Nottingham

Ms Clare McCauley, administrator, UKCGE

Ms Kathryn Brown, administrator, Leeds Metropolitan University

Terms of reference

The Steering Group is asked to advise the Chief Executives of HEFCE, HEFCW and SHEFC on the practical means of implementing the following recommendation arising from the Review of Research:

The HEFCE, together with the Research Councils and other stakeholders such as industry and charities, should develop minimum requirements which departments would need to satisfy in order to be eligible for HEFCE funding for postgraduate research training. The research assessment process should be extended to establish whether departments comply with these minimum standards.

The Steering Group is asked to advise on:

- The approach to a good practice guide for HEIs on postgraduate research training
- Possible indicators of good practice
- Threshold standards
- Assessment and assurance systems utilising standards
- Funding implications.

This will be a three-stage process with:

Phase one a review of good practice in HEIs, requirements of research funders, and identification of indicators that might form the basis of possible threshold standards

Phase two would be, in consultation with all interested stakeholders, developing these indicators into threshold standards, and how such standards might be deployed

Phase three would be assessing the costs of implementing such a system and possible funding models to support it.

At the end of each phase the steering group will be asked to advise whether to proceed to the next phase.

Annex C

Project methodology

The project is a three-stage process with:

Phase one: a review of good practice in HEIs and identification of indicators that might form the basis of threshold standards, the requirements of research funders, and collection of baseline data

Phase two: in consultation with all interested stakeholders, developing the indicators into threshold standards, and considering how such standards might be deployed

Phase three: assessing the costs of implementing such a system and possible funding models to support it and deliver improvement.

This report covers phase one of the project, conducted between September 2001 and March 2002.

To understand the current provision of RDPs, understand the existing quality assurance, monitoring and regulatory systems, and identify examples of good practice, we collated baseline data through survey, and conducted interviews, visits and workshops with the academic community, major funders of research students, and other stakeholders. Because of the short timescale for phase one, institutional and stakeholder visits and the survey of current practice ran in parallel.

Institutional visits and interviews

A series of visits were made to selected institutions. These involved interviews with vice-chancellors, heads of graduate schools, heads of departments, academic and administrative staff responsible for RDPs, research active academics and students from a variety of disciplines, and individuals responsible for generic postgraduate training programmes.

We would like to thank everyone involved in preparing for and supporting our visits. Every institution went to great lengths to make us feel welcome and give us access to individuals and information at short notice. We visited the following institutions:

University of Cambridge
University of East Anglia
University of Edinburgh
Institute of Psychiatry, Kings College London
University of Manchester
Middlesex University
University of Sheffield
University College London
University of Warwick

Stakeholder interviews

An initial meeting was held with representatives from the AHRB, and the six Research Councils – BBSRC, EPSRC, ESRC, MRC, NERC and PPARC. Subsequent meetings were held with each Council/Board individually.

Interviews were also held with:

- The Wellcome Trust, GlaxoSmithKline, Civil Service Fast Stream, Royal Society of Chemistry, Quality Assurance Agency (QAA), and Higher Education Statistics Agency (HESA).
- Society for Research in Higher Education (SRHE), Council for Industry and Higher Education (CIHE), Universities UK (UUK), Universities Scotland.
- National Postgraduate Committee, National Union of Students (NUS), Association of University Teachers (AUT), Overseas Research Students (ORS).
- Sir Gareth Roberts, Wolfson College Oxford and members of his review team at the Treasury and the DTI. Sir Martin Harris, Vice-Chancellor, University of Manchester, and Chair of the HEFCE Review of Research project.

Presentations on the project objectives were made to:

Members of (SRHE) Postgraduate Issues Network (31 attendees)

Members of the UK Council for Graduate Education (UKCGE) Committee (11 attendees)

National Postgraduate Committee Annual Conference, August 2001

UUK Postgraduate Trends and Challenges Conference, November 2001

UUK Supporting and Developing Research Careers Conference, March 2002

Consultation workshops

Workshop I, 11th December (26 attendees)

Workshop II, 12th February (31 attendees: 18 common to both)

Survey

A two-part survey was used to review current practice across the sector. Part A looked at institutional regulations and procedures (108 respondents representing 55% of the sector); and part B examined practice at operating level (186 respondents). It was left to the institution to define what constitutes a distinct operating unit: faculty, school, department or group.

Responses were equally split between pre-1992 and post-1992 institutions. A full listing of respondents is given below.

Institution	Part A	Part B
University of Bath	✓	✓
Bath Spa University College	✓	✓
University of Birmingham	✓	✓
Birkbeck College	✓	
Bolton Institute of HE	✓	✓
Bournemouth University	✓	✓
University of Brighton	✓	✓
University of Bristol	✓	✓
Brunel University	✓	
Buckinghamshire College of HE		✓
University of Cambridge	✓	✓
Chester College of HE	✓	✓
University College Chichester	✓	✓
City University	✓	✓
Coventry University	✓	
Dartington College of Arts	✓	
De Montfort University	✓	✓
University of Derby	✓	
Edge Hill College of HE		✓
Falmouth College of Arts	✓	✓
Goldsmiths College	✓	
Harper Adams Agricultural College	✓	✓
University of Hertfordshire	✓	✓
University of Huddersfield	✓	✓
University of Hull	✓	✓
Keele University	✓	✓
Kent Institute of Art & Design	✓	✓
King Alfred's College, Winchester	✓	✓
King's College London	✓	✓
Kingston University	✓	✓
Lancaster University	✓	
University of Leeds	✓	✓
Leeds Metropolitan University	✓	✓
University of Leicester	✓	✓
University of Liverpool	✓	✓
Liverpool John Moores University	✓	✓

Institute of Historical Research		✓
Institute of Latin American Studies	✓	
University Marine Biological Station, Millport	✓	
Institute of Zoology	✓	✓
London Business School	✓	✓
London School of Hygiene and Tropical Medicine	✓	✓
The London Institute	✓	✓
Loughborough University	✓	✓
University of Luton	✓	✓
University of Manchester	✓	✓
Middlesex University	✓	✓
University College, Northampton	✓	✓
University of North London	✓	
University of Northumbria at Newcastle		✓
University of Nottingham	✓	✓
Open University	✓	✓
School of Oriental and African Studies	✓	✓
University of Oxford	✓	✓
University of Plymouth	✓	✓
University of Portsmouth	✓	✓
Queen Mary and Westfield College	✓	✓
RCN Institute	✓	✓
University of Reading	✓	✓
College of Ripon & York St John	✓	✓
Roehampton Institute	✓	✓
Royal Academy of Music	✓	✓
Royal College of Music	✓	
Royal Holloway, University of London	✓	✓
Royal Veterinary College	✓	✓
St George's Hospital Medical School	✓	✓
College of St Mark & St John	✓	✓
St Martin's College	✓	✓
St Mary's College	✓	✓
University of Salford	✓	✓
University of Sheffield	✓	✓
Sheffield Hallam University	✓	✓
University of Southampton	✓	✓
Southampton Institute	✓	✓

South Bank University	✓	✓
Staffordshire University	✓	✓
Surrey Institute of Art and Design	✓	✓
University of Surrey		✓
University of Teesside	✓	✓
Thames Valley University	✓	
Trinity & All Saints	✓	✓
University College London	✓	✓
University College London - Institute of Child Health	✓	✓
University of Warwick	✓	✓
University of Westminster	✓	✓
University of Wolverhampton	✓	✓
Worcester College of HE	✓	✓
Writtle College	✓	✓
University of York	✓	✓
University of Aberdeen	✓	✓
University of Edinburgh	✓	✓
Edinburgh College of Art	✓	
University of Glasgow		✓
Glasgow Caledonian University	✓	
Napier University	✓	
University of Paisley	✓	✓
Robert Gordon University	✓	
University of St Andrews	✓	✓
University of Stirling	✓	✓
University of Strathclyde	✓	✓
Bell College	✓	
UHI Millennium University	✓	✓
University of Glamorgan	✓	✓
North East Wales Institute of Higher Education		✓
University College of North Wales, Bangor	✓	✓
University of Wales, Swansea	✓	✓
University of Wales, Aberystwyth	✓	✓
University of Wales, Lampeter	✓	✓
The Queen's University of Belfast		✓
University of Ulster	✓	✓

Annex D

Framework of quality standards for research degree programmes

The purpose of this framework is to identify a set of standards and examples of good practice to ensure quality in the provision and delivery across all aspects of the research degree programme (RDP[1]).

The framework is divided into eight sections:

1. Institutional arrangements for research degree programmes
2. Research environment
3. Selection, admission, enrolment and induction of students
4. Supervisory arrangements
5. Initial review and subsequent progress
6. Development of research and other skills
7. Feedback mechanisms
8. Appeals and complaints procedures

Column one identifies the requirements for the academic provision; columns two and three show how that translates into responsibilities for supervisors, and for students. Column four gives the institutional requirements for good administrative procedures, regulations and processes.

Within each section we present a set of indicators that impact on the quality of research degree programmes. For each of these indicators we have identified possible minimum standards (1A to 8A), the achievement of which could be conditional for funding.

Mapped against the framework (in the grey boxes) are the results of the survey of current practice in institutions.

Statements and figures in square brackets [ ] are offered tentatively.

Annex A gives a glossary of the terms used in this framework.

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[1] This term is used to cover all aspects of the student experience from recruitment and induction, supervision, and skills development, through to assessment for any higher research degree.

1. Institutional arrangements for research degree programmes

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
1A: The institutional code of practice for RDPs must meet, and preferably exceed, the standards in this document. **1A** 93% of institutions operate a code of practice based on the QAA code. Institution to ensure that it has adequate arrangements and resources to deliver to standards that are at least as high as those set out in this document. It should have mechanisms to ensure that all areas meet these criteria. Co-operative arrangements can be made with other units, institutions and organisations if there are any aspects for which the minimum standards are not met. Any arrangements must be formal, explicit, recorded, and monitored by the institution.	All supervisors to receive, and conform to the practices within the institutional code of practice.	All potential students to receive clear and accurate information on RDPs including the expectations and demands (financial and other) placed on the research student. Make explicit to students their legal commitment to the institutional code of practice when enrolling on an RDP. Make it explicit that the institution has a legal commitment to make provisions to students at levels which are also set out in the code of practice.	Standards to be together in an institutional code of practice covering all the points in this document and conforming to current legislation. The code to be given (and made available on the web) to every applicant, student, supervisory team, academic panel and examiner in a form that makes clear their respective responsibilities. Ensure that the provision of RDPs and related activities are accessible to all students, particularly part-time students and students with special needs.
		1B 64% monitor effectiveness of code of practice annually **1C** Factors feeding into institutional quality assurance mechanisms: - time taken to submit 94% - feedback from current students 97% - external examiner comments 93% - pass & fail rates 86% - feedback from past students 32%	**1B: Institution to monitor, review and act on the application of the standards in its code, including the various standards set out in this document.** **1C: Institutional and unit performance to be monitored [annually] on progress and attrition against agreed targets including gender and ethnic groupings:** ▪ **submission rates [80% within 4years]** ▪ **average time to submission** ▪ **completion rates [80% within 4.5years]** ▪ **level of appeals, complaints** ▪ **student feedback.**

2. The research environment

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
Research training programmes should only be offered by units that meet defined research standards. The HEI should set these for each unit by reference to, eg: ▪ RAE rating ▪ level of grants and other funding ▪ number of research active staff ▪ papers, publications & patents ▪ facilities ▪ completion and pass rates. ➜ For units which do not meet the institution's standards, research training should only be offered after co-operative arrangements have been made with a unit in which the standards are met. **2A: RDPs offered in units with minimum RAE rating consistent with [current QR funding levels] .**	Supervisors to have relevant experience and recent publications in student's project area. 77% specify what is a suitable environment for research training: - appropriate infrastructure & facilities 57% - suitably qualified supervisors 41% - research active/reputation of unit 27% - access to seminars/critical mass 27% - institutionally/code defined 21% - minimum RAE rating 8%	Students to have a duty to contribute to the research environment (see Section 6).	Institutions to establish unit research standards (at or above the threshold); such standards to be subject to monitoring and regular review by the institution. Co-operative links with other units, institutions and organisations formed in order to reach minimum standards must be formal, explicit, recorded and monitored by the institution. This should include demonstrating how the agreement(s) will achieve the effective operation of the required minimum standard.
Research active units should have a critical mass of research active staff/postdoctorates and research students within the unit or arrange this through explicit co-operative arrangements with other relevant units. **2B: Demonstrate, within the unit/cognate area, a way of providing effective interactions:** **▪ with a minimum [5] research active staff/postdoctorates** **▪ between a group of at least [10] students.**	**2B** Mechanisms for effective student interactions: - attendance at conferences 50% - inter-institutional interactions 45% - research training 16%		
2C: Sufficient facilities for the research project, including library and IT facilities, should be available at or above the level needed for research of a national standard.		Students to have same access as academic staff to institutional resources, facilities and equipment (e.g. library privileges, funds for inter-library loans) and sufficient to do the project.	Institution should demonstrate a commitment to RDP by providing year round access to facilities with no distinction between term time and vacations.

3. The selection, admission, enrolment and induction of students			
Academic standards	**Standards for supervisors**	**Standards for student/institution relations**	**Administrative process standards**
There must be a rigorous admissions procedure to match students with a programme of research, supervisory team and institution. This may be achieved by: ▪ requiring all students to meet a minimum academic standard ▪ conducting face to face interviews for all applicants – which could be by video conference or local agent for overseas applicants ▪ taking up a minimum number of academic references for each applicant ▪ assessing other relevant information, e.g. language proficiency. **3A: Institutional minimum level of academic entry standard [2.1 or masters or institutionally defined equivalent APL/APEL].** **3B: Selection process and admission decision to involve at least [2] experienced and research active academics, trained in admission processes.** **3B** 72% always involve more than one experienced member of staff, 23% usually - 10% always/30% usually require training - 31%always/48% usually interview - 39%always/40% usually involve more than one academic on interview panel - 78%always/13% usually follow up references	**3A** Academic capabilities of prospective students assessed by: - academic qualifications 59% - references 56% - interview 45% - project proposal 29% Non standard applications assessed by: - interview 42% - references 36% - project proposal 19% - work experience 18% - assessment of academic qualifications 12% Overseas candidates assessed by: - video/telephone interviews 31% - equivalent qualifications 31% - project proposal 27% - interview in-situ by agent 15% - language proficiency 61% (ELTS or equivalent)	Confidentiality should be maintained throughout the admissions process. The student should be informed of and agree during the admission process: ▪ broad outline of proposed research topic and length of study ▪ facilities and space to be made available to the student ▪ choice of supervisory team, nature of the supervisory arrangements and 'contract' (see Section 4) ▪ requirements on the student eg attendance, progress reports, contact, enrolment, registration ▪ expectations of student in relation to academic and social conduct and performance ▪ requirements and availability of training. Applicants to made aware of any relevant institutional funds/bursaries to support students. **3C** Information available on the web: - fees 74% - admission criteria 74% - admission procedure 72% - cost of living/accommodation 47% - all additional costs 32%	Written criteria and processes for admission of students and allocation of projects, achievement of which should be monitored. Target response timescales to be published and monitored for each stage in the admissions cycle. The person(s) responsible for making offers to be defined. Institution to seek assurance that the student has sufficient financial support to complete the RDP. **3C: Open access to all relevant material on web.** **3D: Formal offer letter should include:** ▪ **fees and charges** ▪ **period of study** ▪ **direction of study** ▪ **specific requirements** ▪ **other requirements** ▪ **direction to other relevant information and codes of practice (eg on the web)** ▪ **student's responsibilities.** **3D** Formal offer letter includes: - total fees, including bench fees, etc 80% - enrolment and registration arrangements 74% - name of supervisor 73% - normal length of study 65% - supervisory arrangements 55% - training requirements 43% - facilities to be made available 41% - outline of proposed research programme 36% - student's responsibilities 35% - research ethics, codes, IPR 31%

3. The selection, admission, enrolment and induction of students (continued)

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
Induction process to explain the academic requirements of the RDP including matters such as research codes and ethics, academic misconduct, IPR and plagiarism.	Main supervisor to be actively involved in ensuring the student receives, understands and accepts the expectations of the RDP, and of any Health and Safety requirements and relevant legislation through the induction process.	The induction process should provide students with the opportunity to meet other researchers and staff and should explain mutual expectations, including: ▪ challenges typically faced by a research student and where guidance may be sought ▪ facilities made available to students as well as the provision of learning support infrastructure ▪ provision for student welfare and other support arrangements ▪ skills training programmes (Section 5) ▪ expectations about opportunities to broaden knowledge through seminars, conferences, forums, etc.	Institution to provide a formal induction process within the first three months to cover all the points in columns 1-3 as well as other institutional matters such as ▪ the institution and its postgraduate portfolio ▪ the institution's regulations and procedures – including on IPR ▪ Health & Safety and other relevant legislation. Institution to monitor student attendance during the induction process and provide mechanisms to accommodate cross-sessional entrants.
		3E: Student and institution to sign up to an agreement on the learning outcomes of the RDP. **3E** Student provided written information on: - RDP regulations & registration 83% - assessment and review procedures 82% - supervision arrangements 78% - appeals and complaints procedures 76% - facilities and learning support 72% - student welfare 72% - health and safety information 72% - skills training programmes 69% - availability of guidance 60% - opportunities of peer group support 48%	**3F: Institution to provide a formal induction process with monitored attendance.** **3F** More than 50% of FT/PT students receive: - compulsory induction programme 56%/40% - voluntary induction programme 31%/30% - supervisor induction 55%/50%

4. Supervisory arrangements

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
4A: Provide a supervisory team consisting of at least [2], one of whom should be designated as the 'main' supervisor with overall responsibility for the student. For interdisciplinary, collaborative or externally/industrially supervised projects, there should be a 'third party' in the supervisory team to provide the student with access to an independent view. **4A** 94% have criteria for supervisory arrangements: - 40% defined within code of practice or institutional guidelines - 13% highlighted supervisory teams **4B: At least [2] members of the 'supervisory team' should be demonstrably research active academics with relevant knowledge and skills to supervise and with defined roles.** **4B** 78% specify the experience required of supervisors **4C: At least [1] member of the supervisory team to be from a minimum [3a] RAE rated department.**	The roles of the members of the supervisory team should be clearly understood by the team and student. **4D: The 'main' supervisor to have had experience of at least [1] successful supervision within a supervisory team.** **4D** 15% specify one or more prior completions by main supervisor **4E: The 'main' supervisor should take prime responsibility for a maximum [8] students.** **4E** 69% give guidance on supervisor workloads 25% specified 3-10 students **4F: Training should be specified by the institution and compulsory for [new] supervisors.** All supervisors, whatever their level of experience should have regular training. **4F** 57% require training for new supervisors. 24% require training for all supervisors	Student to have an identified contact (mentor/advisor) to whom they could go for confidential advice and support outside the immediate supervisory team. This person to have proactive periodic contact with the student.	Guidelines should be provided for supervisors and for students setting out their respective responsibilities, with the arrangements to be embodied in institutional procedures. The workload associated with supervision should be identified and managed: this should involve transparent procedures for allocating time to the supervision of students. Periodic [annual] independent institutional review of the supervisory arrangements with the outcomes used to adjust supervising responsibilities. Individual supervisor performance should be reviewed [annually] as part of the academic staff appraisal process.

4. Supervisory arrangements (continued)			
Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
Regular structured [monthly] interactions with at least the 'main' supervisor to provide feedback on progress, with agreed outcomes recorded. **4G: There should be structured interaction with the supervisory team to report, discuss and agree academic and personal progress at least every [3 months]. Outcomes of all such meetings to be recorded as agreed.** **4G** 79% define the frequency of contact 51% specify procedures for recording meetings; 33% by formal report or log book	Alternative arrangements to be provided if any member of the supervisory team is unavailable for a significant period, defined by the institution. Specify the means by which a supervisor can seek independent advice on supervisory issues, especially if they have concerns about a student's ability or application to the study programme.	Student has responsibility to record and confirm outcomes of meetings.	

5. Initial review and subsequent progress

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
5A: Progress subject to institutionally defined periodic review by a panel of at least [3] research active and relevant academics, the majority of whom are independent of the supervisory team. At least one of the independent panel members should be from a minimum [3a] RAE rated department. An initial panel review to approve the project proposal might include a written or oral presentation, with an interview, on the basis of: ▪ clarity of objectives ▪ feasibility and project plan ▪ knowledge and skills of student and supervisory team ▪ availability of resources ▪ skills training needs. **5A** 72% approve research proposal through independent panel, research degree committee or equivalent, predominantly through a written document. 26% also involve an oral defence Subsequent progress reviews to be assessed by the same (or equivalent) panel by means of one or more of: ▪ open presentation with critical feedback from their peers and department ▪ written progress report ▪ project presentation and viva to panel Panel to provide a written report of the required steps to be taken if areas of concern are identified. Panel to have the power to sanction the student and/or the supervisor.	Supervisory team has a responsibility to support the progress of the student. Responsibility to raise any concerns with the student in advance of each assessment and record them in writing. The supervisory team has the responsibility to support the development of the project proposal, to ensure that it is achievable within the timescale of the degree programme and to confirm that sufficient resources will be available. Supervisory team to have access to panel progress reports to help address any areas of concern identified.	The student has a responsibility to listen to, understand and accept feedback and criticism from the panel and supervisory team, recognising that this may sometimes be negative. Outcome of formal reviews to be provided as written (supportive) guidance to help the student identify the issues to be addressed. Student to be provided with an opportunity to address the concerns of the panel and re-submit within a time period set by the institution. Outcomes subject to academic and administrative appeal by the student.	**5B: Institutional procedures and time limits to be set, and unit performance monitored, for initial review and subsequent progress covering:** ▪ **initial review within [12] months of 'enrolment' and confirm continuation or upgrade to a PhD** ▪ **[annual] review processes** ▪ **implications of the possible outcomes of each assessment** ▪ **criteria for deciding suspension or termination of a student's registration.** Institutional procedures to be communicated to all; supervisory teams, students, panels, examiners, with a clear process for a student to appeal against a decision on academic or administrative grounds (see Section 8). Student given written information on: RDP regulations and registration 83%; assessment and review procedures 82% Defined mechanisms for advising students if standards have not yet been, or are unlikely to be, achieved at any point in the programme. Project proposal should be subject to agreement by the resource manager that it is consistent with likely resource availability. For project proposals that are developed in advance of allocating students to them, the approval and above agreements should take place before the arrival of any student – with a subsequent check that the student's skills match those needed by the project.

5. Initial review and subsequent progress (continued)

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
5C: Final examination to be by a viva with an independent panel of at least two examiners who are research active in relevant fields, at least one of whom is an external examiner. All examiners to be independent of the project and to have had no prior role in its development, implementation or assessment. Operation of the panel managed by an independent chair. **5D: At least one of the examiners to be from a minimum [3a] RAE rated department. Each examiner to provide an independent report on the thesis prior to the viva.**	Supervisory team to support the development of the thesis and advise on preparation for the viva, including offering a practice session. Supervisor and team should be available to the panel if required. Supervisory team to have access to examiners' reports following the viva.	For the final defence, the student should: ▪ be able to comment on the choice of examiners ▪ have the right to request or refuse the presence of the main supervisor as a non-contributing observer (unless asked to contribute by the chair). Examiners' reports to be made available to student following the viva. If required to re-submit, students should be given a written statement of the work to be done to get their degree within an agreed timescale.	Institutional procedures and timings to be set for the examination and made available to the student. Procedures and approval process for the selection of internal and external examiners to use transparent criteria. Training for examiners to be available as part of the institution's staff development. Institutional assessment criteria for the examination to be provided to examiners in writing, with an offer of training. External examiners requested to provide comments on the broader issues of the research training and environment to an appropriate institution-wide body.

6. The development of research and other skills

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
6A: Provide training programmes to develop a range of skills and knowledge consistent with the Joint RC/AHRB skills statement, including skills for employment, and provide mechanisms to assess formally the development of these skills. **6A** Institutions where more than 50% of students receive training in: - research methodologies 73% - subject specific knowledge 69% - generic research skills (eg project management) 67% - transferable skills (eg teamworking) 43% - employment related skills 27% **6A** Respondents with compulsory/credit rated training programme in: - research methodologies 56% - subject specific knowledge 40% - generic research skills 58% - transferable skills 33% - employment related skills 20%	Know about the range of relevant research training courses both within and outside the institution – and ensure the student knows this too. Agree a programme of training with the student, ensure that it is a balanced training programme throughout the RDP. Review progress and give guidance to the student if additional action is needed. Have access to guidance and support in assessing skills and identifying students' training needs. **6B: Student and supervisory team to identify and agree a training needs analysis against the Joint RC/AHRB skills statement as part of the [induction] process. Reviewed [quarterly] to ensure needs are being met.** **6B** Student's needs assessed: - through monitoring project progress 47% - by supervisory team 35% - through external involvement such as research training programme 3% - assessment panel 12%	With the supervisory team, agree and document a skills training programme that takes into account prior learning and experience. With the supervisory team, review and record annually, an assessment of the evidence of skills developed. **6C: Student to maintain a jointly agreed record of personal progress.** **6C** Student log book requirement cited by 3%	Ensure provision of a programme of training courses consistent with the Joint RC/AHRB skills statement, including skills for employment. Ensure that there is the same access to training for all students, taking into account the needs of part-time students, students with special needs and students remote from the institution. Conduct a periodic independent institutional review of the quality and capacity of training programmes and of students' access to them. The review panel should include external representation such as other academics and prospective employers. Training provision relates 47% or broadly relates 12% to RC/AHRB skills statement
6D: Minimum level of activities defined and monitored to promote breadth and depth of knowledge and experience by means of attendance at internal and external seminars, conferences, discussion forums, [twice annual] 'presentations', teaching, demonstrating Encourage students to publish and/or present papers to benefit from receiving critical feedback from outside the team.	Provide students with an introduction to relevant academic networks to enable them to participate in wider scholarly activity Provide advice on attendance at relevant seminars, conferences, etc. **6D** 72% have presentation requirements: 16% annually. 39% encourage students to present outside their unit	Responsibility on students to attend and contribute to seminars and discussion forums. Students actively to seek opportunities to present work and to receive feedback.	Set standards for the extent of such activities and establish a monitoring process to ensure that they are being met.

7. Feedback mechanisms

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
7A: Establish and operate confidential feedback mechanisms for: ▪ **current students [column 4]** ▪ **supervisory teams and review panels** ▪ **external parties, eg examiners, funders, collaborative organisations, employers, alumni.** **Incorporate this feedback into the regular review of academic standards and provide information on action taken in response.** Mechanisms to obtain student feedback: - progress reports 33% - student representation 17% - surveys and questionnaires 16% - independent interviews or contact 10%	Supervisors to be responsible for providing feedback to improve RDP provision. Supervisors to be provided with explicit mechanisms to give feedback on RDP performance (confidential where appropriate). Supervisors to receive personal feedback on their own performance to help them improve and identify their own training needs.	Students to be responsible for helping to improve research provision through: ▪ providing feedback to their own supervisory team ▪ providing feedback to the institution by participating in, for example, interviews and focus groups ▪ representation on committees ▪ responding to surveys ▪ as alumni, providing information to first destination surveys and subsequent longitudinal studies.	Establish and operate confidential feedback mechanisms and provide information on actions taken in response: ▪ conduct survey up to [10 weeks] after start, on recruitment, admission and induction procedures ▪ annual survey (or conduct independent focus groups in small departments) ▪ exit questionnaires on student completion ▪ exit interviews (conducted by a relevant person, but not someone from the supervisory team). Research students to be represented on those policy committees relevant to research degree programmes. Student representation on decision-making bodies 77%

8. Appeals and complaints mechanisms

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
To operate transparent, clear criteria for complaints and appeals, which might be made on academic grounds.		Students to be provided with clear explanations about the mechanisms for complaints and appeals.	**8A: Institution to arrange and publicise separate, fair, transparent, robust and consistently applied complaints and appeals procedures, appropriate to all categories of research students.** **8A** Specific complaints and appeals procedures for research students 84% Mechanisms to communicate appeals procedures 92% Mechanisms to communicate results of appeals 89%

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Annex E

Summary of framework standards

1. Institutional arrangements

1A: Institution's code of practice for RDPs must meet, and preferably exceed, the standards in the framework.

1B: Institution to monitor, review and act on the application of the standards in its code of practice, including the various standards set out in the framework.

1C: Institutional and unit performance to be monitored [annually] on progress and attrition against agreed targets including gender and ethnic groupings:
- submission rates [80% within 4 years]
- average time to submission
- completion rates [80% within 4.5 years]
- level of appeals, complaints
- student feedback.

2. Research environment

2A: RDPs offered in units with a minimum RAE rating [consistent with QR funding][1].

2B: Demonstrate, within the unit/cognate area, a way of providing effective interactions:
- with a minimum of [5] research active staff/postdoctorates
- between a group of at least [10] students.

2C: Sufficient facilities for the research project, including library and IT facilities, should be available at or above the level needed for research of a national standard.

3. The selection, admission, enrolment and induction of students

3A: Institutional minimum level of academic entry standard [2.1, masters, or institutionally defined equivalent APL/APEL].

3B: Selection process and admission decision to involve at least [2] experienced and research active academics, trained in admission processes.

3C: Open access to all relevant material on web.

3D: Formal offer letter should include:
- fees and charges
- period of study
- direction of study
- specific requirements
- other requirements
- direction to other relevant information and codes of practice (eg on the web)
- student's responsibilities.

3E: Student and institution to sign up to an agreement on the learning outcomes of the RDP.

3F: Institution to provide a formal induction process with monitored attendance.

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[1] Mainstream QR funding is currently linked to RAE ratings of 3a and above in England and Scotland, and 3b and above in Wales.

4. Supervisory arrangements

4A: Provide a supervisory team consisting of at least [2], one of who should be designated as the 'main' supervisor with overall responsibility for the student.

4B: At least [2] members of the 'supervisory team' should be demonstrably research active academics with relevant knowledge and skills to supervise and with defined roles.

4C: At least [1] member of the supervisory team to be from a minimum [3a] RAE rated department.

4D: The 'main' supervisor to have had experience of at least [1] successful supervision within a supervisory team.

4E: The 'main' supervisor should take prime responsibility for a maximum [8] students.

4F: Training should be specified by the institution and compulsory for [new] supervisors.

4G: There should be structured interaction with the supervisory team to report, discuss and agree academic and personal progress at least every [3 months]. Outcomes of all such meetings to be recorded as agreed.

5. Initial review and subsequent progress

5A: Progress should be subject to review by a panel of at least [3] research active and relevant academics, the majority of whom are independent of the supervisory team. At least one of the independent panel members should be from a minimum [3a] RAE rated department.

5B: Institutional procedures and time limits to be set, and unit performance monitored, for initial review and subsequent progress covering:

- initial review within [12] months of 'enrolment' and confirm continuation or upgrade to a PhD
- [annual] review processes
- implications of the possible outcomes of each assessment
- criteria for deciding suspension or termination of a student's registration.

5C: Final examination to be by a viva with an independent panel of at least two examiners who are research active in relevant fields, at least one of whom is an external examiner.

5D: At least one of the examiners to be from a minimum [3a] RAE rated department . Each examiner to provide an independent report on the thesis prior to the viva.

6. The development of research and other skills

6A Provide training programmes to develop a range of skills and knowledge consistent with the Joint Research Councils/AHRB skills statement, including skills for employment, and provide mechanisms to assess formally the development of these skills.

6B Student and supervisory team to identify and agree a training needs analysis against the Joint Research Councils/AHRB skills statement, as part of the [induction] process. It should be reviewed [quarterly] to ensure needs are being met.

6C: Student to maintain a jointly agreed record of personal progress.

6D Minimum level of activities defined and monitored to promote breadth and depth of knowledge and experience by means of attendance at internal and external seminars, conferences, discussion forums, [twice annual] 'presentations', teaching, demonstrating.

7. Feedback mechanisms

7A Establish and operate confidential feedback mechanisms for:

- current students
- supervisory teams and review panels
- external parties, eg examiners, funders, collaborative organisations, employers, alumni.

Incorporate this feedback into the regular review of academic standards and provide information on action taken in response.

8. Appeals and complaints mechanisms

8A Institution to arrange and publicise separate, fair, transparent, robust and consistently applied complaints and appeals procedures, appropriate to all categories of research students.

Annex F

Quality Assurance Agency audit report

1. Introduction

As part of the process of investigating current quality and standard mechanisms in UK higher education institutions (HEIs) with respect to research training, the UKCGE team has reviewed 75 institutional audits on the QAA web site (www.qaa.ac.uk).

The purpose of the review is both to provide a general overview of current practice and to identify:

- specific quality and standard mechanisms adopted by institutions for postgraduate/research training
- particular strengths and pockets of good practice
- weaknesses/ areas requiring further attention.

The first part of this annex briefly sets out the history, policy and process of QAA quality and standard audits. The second part highlights key observations in terms of practice and coverage. The final part summarises the key observations and highlights some difficulties encountered with the QAA audit process.

2. The QAA audit

The process of auditing institutions began in 1991 under the auspices of the Academic Audit Unit of the Committee of Vice-Chancellors and Principals (now Universities UK). The process was taken over by the Higher Education Quality Council (HEQC) in 1992, and was revised following completion of the programme in 1997.

The main principle of the audit is to offer an opinion on the extent to which individual institutions are discharging effectively their corporate responsibilities for the academic standards and quality of their awards and associated programmes of study. It takes as its starting point the assumption that institutions have appropriate quality assurance policies and procedures in place, and also assumes that they can provide convincing evidence that these are working to good effect.

Institutions are audited by external examiners, typically senior academic staff, who visit the institution and produce a report detailing strengths and weaknesses and methods for maintaining quality and standards. The audit checks that the methods used are sufficiently reliable to continue to provide stakeholders with the necessary assurances for the future. Institutions are expected to report back within the year on action that they have taken to deal with any identified problems.

The audit report focuses on four key themes:

- quality strategy
- academic standards
- the learning infrastructure
- internal and external communications.

Details are also given of an institution's collaborative partnerships.

3. Methodology

In reviewing the individual audit reports, the team considered the provision made for postgraduate research training in the following areas:

- quality and standards of awards
- key institutional structures that deal with awards
- the learning infrastructure
- student support.

It also considered any matters with respect to research training arising from the individual reports:

- conclusions
- points for commendation
- highlighted issues.

4. Structures for maintaining quality and standards

The audit reports indicate that the body responsible for assuring and maintaining quality and standards varies between universities. Prototypical structures[1] include institutions that either:

- assure the quality and standards of *all* awards via a central structure, with some devolution to boards or committees:
  - Senate, *or devolved to:*
  - Senate Ordinances and Regulations Committee
  - Academic Board
  - Academic Standards Committee
  - Academic Council
- assure the quality and standards of *research degrees* via a 'second-tier', with some devolution to boards and committees:
  - Graduate (Research) School
  - Research Office
  - Research & Graduate College, *or devolved to:*
  - Graduate School Quality Committee
  - Board of Higher Degree Studies
  - Research (Degree) Committee
  - Board for Graduate Studies
  - Graduate Education and Policy Committee
- assure the quality and standards of *all* degrees or *research degrees* only devolved to:
  - Faculties
  - Departments
  - Schools

  which may or may not have specific boards and committees.

The devolution of all degrees or research degrees to faculty, department and school level suggests that there is an element of risk involved in *maintaining* quality and standards (particularly if the devolved body is responsible for creating its own strategy). Devolution leads to diversity, which may stimulate richness and variation, but may also lead to incompatibility between procedures and regulations.

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[1] In some institutions, Senate may bypass academic boards and devolve powers to Research Degree Committees (or similar) if the institution does not have a Graduate School (or similar) in place. A less common devolved structure is that of 'graduate centres', in place at the University of Westminster. Certain processes may also be devolved. For example, the University of North London devolves 'approval procedures' to Research Student Action Groups.

For example, one institution[2] was exploring the possibility of devolving the responsibility for research degree matters to schools as a positive measure (in the interest of more locally based responsibility and ownership). The audit concluded that there were concerns that current structures were not 'sufficiently well-coordinated to permit satisfactory central monitoring' and that the institution should consider the implications of devolving to schools the 'significant responsibilities for the quality management of research degrees'.

One report noted that an institution[3] which had devolved much of its responsibility for the maintenance of academic standards to its faculties and departments, and which had established a Graduate School in 1993, had 'quite marked differences between faculties over the proportion of first class honours degrees awarded'.

An institution which had followed a formal set of procedures for devolving responsibilities to faculty level[4] encountered difficulties with maintaining relations between the Research Degree Committee and the faculty research degree committees.

Devolved responsibilities are considered to be unproblematic when there are strong central regulations[5] and/or excellent provision for the monitoring of research students, as in the case of one institution where 'variations in arrangements for research training from school to school did not conflict with university-wide requirements and regulations'[6].

5. Admissions

Few of the audit reports mention the procedures associated with admission to a research or postgraduate degree. Of those that did, only one university was cited as requiring postgraduate candidates for all degrees be interviewed.[7] One institution was cited as having a procedure for those students wishing to register for a research degree who did not have an M-level degree.[8] One institution's report states that there were inconsistencies found in the length of reports expected from research students on registering for a MPhil or PhD – 'notwithstanding the requirements of the University's general regulations'.[9]

The very little detail given about admission procedures could indicate that these are not a problem for most institutions. However, the poor and inconsistent application of one university's[10] admissions procedures[11] was the first indicator that much of its practice in maintaining the standards and quality of research degrees needed revision. One university was found to be in danger of becoming 'vulnerable to accusations of unequal treatment' on the basis of unclear criteria for registration of research students.[12] There is obviously a need for clear standards with regard to newly registered research students.

6. Monitoring

Most institutions have in place a similar procedure for maintaining standards – the monitoring of research students through annual progress reports. The Open University requires the submission of a first year report for full-time research students, a probation report for part-time students, and an annual progress report for all other current students.

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[2] Sheffield Hallam University.

[3] University of Durham.

[4] Manchester Metropolitan University. Faculty level research degree committees with delegated powers had been established in 1997-98. Before this each faculty had to provide a formal plan detailing how it would exercise devolved authority for the approval of the registration of research students and the quality assurance of their assessment.

[5] Huddersfield University.

[6] Aston University.

[7] University of Bath.

[8] University of Wales, Bangor.

[9] Aston University.

[10] King's College London.

[11] There was 'evidence that the procedures for the admission of postgraduate students did not always follow formal procedures'. There were 'identified instances where postgraduate studentships had been filled without being advertised'.

[12] University of Keele.

Whilst the audit reports indicate that monitoring processes are in place in most institutions, few indicate where the responsibility lies for reviewing (rather than undertaking) progress reports. The workload for one institution's Director of Graduate Studies in reviewing all progress reports was reported to be 'excessive and increasingly forbidding were research student numbers to expand further'.[13]

Some institutions supplement the annual progress report with other documentation. For example, both Sheffield Hallam University and Glasgow Caledonian University ask students to complete an annual questionnaire. The results are analysed by the Research Degrees Committee. However both universities report that the level of response is low, even when, as in the case of Sheffield Hallam, the completion of the questionnaire is a formal requirement of the student. Warwick University cites the significant role that student feedback plays in ensuring the maintenance of academic standards.

Further initiatives taken by some universities to enhance their monitoring process include: an annual audit of research degree students[14]; an annual summary of all external examiners' reports that highlights good and bad practice[15]; a second level of annual review of students once the departmental progress report has been completed[16]; drawing-up learning agreements with students[17]; assigning an independent *rapporteur* to each research student who produces a progress report.

Monitoring processes may be negatively or positively affected by low numbers of research students. One report, for example, cites the 'modest number of students in some faculties' as contributing to the 'unhelpful informality in the review of their progress'.[18] Another suggests that since a number of schools had very small numbers of research students, they were 'unlikely to have accumulated a critical mass of academic or administrative experience and expertise'.[19] This seems to indicate that a critical mass in terms of a research student population makes setting and establishing monitoring and training programmes worthwhile. However, the small number of research students for one university is seen as an entirely positive element of the monitoring process, in that it 'enabled the university to devote considerable attention to the scrutiny of proposals, supervisory arrangements, conversion from MPhil to PhD, and final examination arrangements'.[20]

As well as progress reports and other documentation, standards may be monitored by members of the teaching staff[21] and assured by internal and external examiners.[22] The University of North London uses its external examiners 'both to verify the standards of its awards and to comment upon the quality of programmes of study', The University of Essex's report states that external examiners are 'central to setting of standards of attainment'.

7. Conversion of MPhil to PhD

There is little detail given about the process of converting a student enrolled on an MPhil course to a PhD. One institutional report mentions that the procedure for conversion is made by relevant faculty through a Departmental Supervisory Committee, and concludes that there are inconsistencies.[23]. Another states that until recently there was no formal requirement for research postgraduates, all of whom are registered initially for an unnamed higher degree, to provide 'written evidence of their research capability' in support of a transfer of registration to a PhD.[24] The lack of evidence regarding conversion procedures from MPhil to PhD suggests that this is an area that needs further attention by the HEFCE or the QAA to ensure standards are appropriately set and monitored.

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[13] University of Salford.
[14] University of Westminster.
[15] University of Teesside.
[16] University of Wales, Swansea.
[17] University of Salford.
[18] Napier University.
[19] Sheffield Hallam University.
[20] University of North London.
[21] University of Durham.
[22] Nottingham Trent University.
[23] University of Wales, Bangor.

One institutional report states that conversion is based on a detailed report at the end of the first year and that the candidate is interviewed by the supervisor and independent internal assessor. It is perhaps not coincidental that the institution[25] has a Graduate School and a code of practice on admission, supervision and examination of research students.

8. Supervision

There are many instances of regulations for supervision and training. The University of East Anglia, for example, produces a Guide to Supervisory Practice, and the Universities of St Andrews, Strathclyde, Nottingham Trent and Leeds all have a code of practice for research supervision. Only one report indicates that there is a procedure for the institution to assure itself that its code of practice is being enforced.[26]

Training for supervisors is typically cited when there is a postgraduate standards programme' or code of practice in place. At the University of Leeds, all supervisors have the opportunity to receive training. However, the reports for some institutions that appear to operate a 'standards programme' do not make any reference to supervisory training.[27]

The role of the supervisor varies between institutions. The University of Hull's report, for example, indicates that structured supervision was the principal mechanism through which the institution's postgraduate degree standards were conveyed to postgraduate students. However, whilst some criteria for appointing supervisors were in place (supervisors must have recognized subject expertise and appropriate skills and training), training for supervisors was not felt to be sufficiently developed.

One instance of bad practice concerned the heavy dependence on small number of supervisors.[28]

9. Research training

Many reports cite the provision of in-house training programmes for research degree students yet it is also a key 'item for further consideration' for many institutions.

Training, like the monitoring of standards, may be performed centrally or locally. For example, some universities organise the training of generic skills via their Graduate Schools, and individual schools organise training in subject-specific fields,[29] whilst some universities make departments responsible for all training.[30] The central provision of training was felt to be useful at one institution as a means of bringing together postgraduate students from diverse disciplines.[31] The University of Liverpool was developing a cross-university training programme for research students that became compulsory in 2000.

Training is felt to be unsuccessful where institutions have low numbers of research students.[32] (This reinforces the view that only a critical mass of research students makes providing adequate training programmes worthwhile.)

10. Examination

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[24] University of Reading.
[25] University of Manchester.
[26] University of Strathclyde: 'the code...is monitored through the faculty-based system of departmental reviews'.
[27] University of Sunderland.
[28] Sheffield Hallam University.
[29] University of Warwick; Anglia Polytechnic University.
[30] University of Wales, Cardiff.
[31] University of Wales, Swansea.
[32] University of Wales, Lampeter.

Most references to research degree examination refer simply to the locus of responsibility or to the existence of regulations for examiners.[33] There is no reference to the examination procedure *per se* or to its evaluation.

11. Student support

There are a number of references to institutions providing their students with handbooks[34] or codes of practice for research students/candidates.[35] These documents are of importance in demonstrating that regulations and provision are in place in most institutions. However, examples of bad practice included a handbook which had not been updated since 1993,[36] and which focused primarily on the regulatory framework; and one, which in comparison to the institution's undergraduate student handbook, contained only very limited information on research and the Graduate School.[37]

The Manchester Metropolitan University report states that handbooks for students and staff are generally 'of a high standard and are informed by centrally provided templates'. This seems to concur with the general premise that all aspects of research training (monitoring, assessment, supervision) display 'good practice' if they have a close relationship with central structures.

12. Research environment

Only one institutional report refers explicitly to the monitoring of facilities and equipment.[38]

13. Student committees

There are many instances of institutions putting in place student liaison committees or similar. For example, the University of Wales, Swansea, has a Graduate School Assembly which is a forum for staff and postgraduate students, reporting to the Graduate School. The University of Warwick has Student Staff Liaison Committees. The University of Wales, Aberystwyth, has a Postgraduate Association which provides a point of contact within the student community and also between students and the university. The University of Westminster has taken a number of initiatives to develop the postgraduate student community in the university, which have included the establishment of a Research Students' Committee.

The purpose of the committees varies – as does the level of input given to the postgraduate community. Cardiff University's Graduate Centre is managed by the Student Services Division and was developed in partnership with the Students Union. The institution is commended for the support given to postgraduate students through the Centre (but see paragraph 14 below).

The presence of student bodies is perceived to be positive. Its absence at one institution contributed to their postgraduate students' belief that they were an 'invisible group'.[39]

14. Graduate teaching assistants

The audit reports indicate questionable practice in the use of postgraduate teaching assistants and their training. The report for Cardiff University, commended for its student support, states that some students were teaching without any training; King's College London needs to ensure that students are properly supervised and trained in a teaching role. The postgraduate section of the report for Heriot-Watt focused entirely on its use of postgraduate students in a teaching role, but noted that there are no means by which the university could assure itself that students had received proper training or support.

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[33] The University of Manchester, which has robust graduate studies standards in place, only appoints external examiners 'after strict scrutiny and approval by the Board of Postgraduate Management Studies'. Similarly, the University of Warwick has put in place 'appropriate control systems for the appointment of external examiners for research degrees'.

[34] For example, Manchester Metropolitan University, University of Surrey, University of Hull, University of Keele, University of Plymouth, Glamorgan University.

[35] For example, University of Leeds, University of Manchester, University of Southampton.

[36] Napier University.

[37] Anglia University.

[38] Glasgow Caledonian University.

[39] Anglia University.

It is obvious that student representation ought to be made at the appropriate level (faculty or school). However, since there are many variations in practice it is difficult to gauge which structure is manifestly 'good practice'. What is important is that research students need to feel they are part of the wider research community, perhaps through more pro-active involvement in seminars and research workshops, interaction with well-established researchers and professors, and sufficient training and support if required to undertake teaching responsibilities.

15. Summary of key observations

Devolving the assurance of quality and standards generally means that there will be risk associated with maintaining standards, particularly if there is devolution to school, department or faculty level. The risks include variations in practice and provision, and practice which does not meet central regulations. The risks are reduced if there are strong central regulations in place and clear lines of communication between central and devolved structures. However there is a danger that this might lead to more bureaucracy.

Admissions procedures are not covered extensively by the audit. Practice that is documented is generally poor. Correct admissions procedures are the crucial first step in ensuring the effective management of the research training process.

There appear to be similar monitoring procedures in most institutions by means of a progress report. Some institutions have implemented a variety of supplementary procedures. Generally the audits do not indicate who is responsible for assuring that reports are read and acted upon. The low number of research students within an institution may have a negative or positive effect on the monitoring process.

There is little coverage of the conversion procedure from MPhil to PhD. The coverage indicates questionable practice but also suggests that there is a need for additional advice/guidance from the HEFCE or in the QAA's code of practice.

The audit reports generally state that supervisory regulations are in place but do not provide detailed descriptions of the level of criteria for appointing supervisors, supervisory training and support.

These details may be contained in supervisory codes of practice that many institutions have in place. The heavy reliance on a small number of supervisors for a large volume of students is perceived to be an example of bad practice.

The audit reports generally state that research training programmes are in place, but do not provide detailed descriptions or information about their compulsory nature nor quality control measures. Research training may be provided centrally and locally. An advantage of central provision is that it brings together students from different disciplines. The sharing of research experience/knowledge between students helps them to create a sense of research community within the university/unit.

There is very little coverage or evaluation of examination procedures.

Student involvement in monitoring and other research training processes is perceived to be entirely positive. Many institutions have student committees. There is little reference to the provision of a research environment. Many institutions using graduate teaching assistants provide little or no training.

Examples of good practice include:

- student induction[40]
- research training[41]

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[40] University of Wales, Swansea.

- the strength of student committees[42]
  - student support[43]
  - preparation for teaching role[44]
- developing a research culture[45]
- monitoring research student progress[46]
- comprehensive and robust arrangements for all aspects of research degrees.[47]

Examples of practice which is questionable and should be improved include:

- inconsistent practice across the university in
  - student registration
  - recruiting and inducting students
  - consistency in handbooks
  - MPhil-PhD transfer
- training for postgraduate student teacher assistants
- practice in
  - monitoring student progress
  - monitoring student training
  - university-wide training
- disseminating practice
- procedures for
  - approving project proposals
  - allocating supervisors.

16. Conclusions

The review of audits has proved a worthwhile exercise for extracting examples of good and bad practice, and indicating where procedures are not in place. It has also highlighted some limitations in terms of the audit process itself.

17. Coverage

Since the nature of the audit report is not to discriminate between good and bad practice but to document all practice within an institution, and since reports are concerned with quality and standards at all levels, the information on postgraduate provision was variable. Of the 75 reports reviewed, most the majority gave an overview of current provision for research training, 10 reports contained no reference to postgraduate issues, and only a minority provided a detailed examination.

18. Consistency

The reports do not provide a consistent examination of the key themes of the QAA audit. Institutions with well-established research units/research culture have clear mechanisms to be assessed and scrutinised by the audit team. However there was little information given for those institutions which were not perceived to be research-driven (new universities and/or those with a small number of research students).

19. Concentration

There is typically more concentration on structures for ensuring quality than on detail about procedures. Elements of research degrees that are administrative (such as monitoring) were given more attention than elements such as training and supervision. There was no audit of regulatory or training handbooks, for example.

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[41] University of Wales, Swansea; Aston University.
[42] University of Warwick.
[43] University of Liverpool, University of Wales, Cardiff.
[44] University of Strathclyde.
[45] Aston University, University of Essex.
[46] University of Wales, Swansea.
[47] University of Liverpool.

20. Comprehensiveness

There is a noticeable variation in the comprehensiveness of the information given by the audit teams. Earlier audit reports (1996-97) are very general and descriptive, whilst recent ones (1999-2000) place much more emphasis on procedural aspects and offer a more reflective view of universities' practices in teaching & research.[48]

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[48] It might be argued that auditors learned to audit universities from previous experiences thereby improving the process of reporting.

QAA institutional audits

Institution

Anglia Polytechnic University
Ashridge Management College
Aston University

Bell College of Technology
Bournemouth University
Brunel University

Cardiff University
City University
Coventry University
Cranfield University

Glasgow Caledonian University
Guildhall School of Music and Drama

Henley Management College
Heriot-Watt University

King's College London

Liverpool John Moore's University
Loughborough University

The Manchester Metropolitan University

Napier University
Nottingham Trent University

Open University

Queen Mary, University of London
The Queen's University of Belfast

Sheffield Hallam
Southampton Institute

Thames Valley University

University of Aberdeen
University of Bath
University of Birmingham
University of Bradford
University of Brighton

University of Central Lancashire
University College London
University of Dundee
University of Durham
University of East Anglia
University of East London
University of Essex
University of Glamorgan
University of Greenwich
University of Hertfordshire
University of Highlands & Islands Project (UHI)
University of Huddersfield
University of Hull
University of Keele
University of Kent at Canterbury
University of Lancaster
University of Leeds
University of Liverpool
University of Manchester
UMIST (University of Manchester Institute of Science & Technology)
University of North London
University of Nottingham
University of Plymouth
University of Portsmouth
University of Reading
University of Salford
University of Southampton
University of St Andrews
University of Stirling
University of Strathclyde
University of Sunderland
University of Surrey
University of Sussex
University of Teesside
University of Wales, Aberystwyth
University of Wales, Bangor
University of Wales, College of Medicine
University of Wales, Lampeter
University of Wales, Swansea
University of Warwick
University of the West of England, Bristol
University of Westminster
University of Wolverhampton
University of York

Annex G

Skills training requirements for research students: joint statement by the Research Councils/AHRB

Introduction

The Research Councils and the Arts and Humanities Research Board (AHRB) play an important role in setting standards and identifying best practice in research training. This document sets out a joint statement of the skills that doctoral research students funded by the Research Councils/AHRB would be expected to develop during their research training.

These skills may be present on commencement, explicitly taught, or developed during the course of the research. It is expected that different mechanisms will be used to support learning as appropriate, including self-direction, supervisor support and mentoring, departmental support, workshops, conferences, elective training courses, formally assessed courses and informal opportunities.

The Research Councils and the AHRB would also want to re-emphasise their belief that training in research skills and techniques is the key element in the development of a research student, and that PhD students are expected to make a substantial, original contribution to knowledge in their area, normally leading to published work. The development of wider employment-related skills should not detract from that core objective. The purpose of this statement is to give a common view of the skills and experience of a typical research student, thereby providing universities with a clear and consistent message aimed at helping them to ensure that all research training is of the highest standard, across all disciplines. It is not the intention of this document to provide assessment criteria for research training.

It is expected that each Council/Board will have additional requirements specific to their field of interest and will continue to have their own measures for the evaluation of research training within institutions.

(A) Research skills and techniques – to be able to demonstrate:

1. The ability to recognise and validate problems.
2. Original, independent and critical thinking, and the ability to develop theoretical concepts.
3. A knowledge of recent advances within one's field and in related areas.
4. An understanding of relevant research methodologies and techniques and their appropriate application within one's research field.
5. The ability to critically analyse and evaluate one's findings and those of others.
6. An ability to summarise, document, report and reflect on progress.

(B) Research Environment – to be able to:

1. Show a broad understanding of the context, at the national and international level, in which research takes place.
2. Demonstrate awareness of issues relating to the rights of other researchers, of research subjects, and of others who may be affected by the research, eg confidentiality, ethical issues, attribution, copyright, malpractice, ownership of data and the requirements of the Data Protection Act.
3. Demonstrate appreciation of standards of good research practice in their institution and/or discipline.
4. Understand relevant health and safety issues and demonstrate responsible working practices.
5. Understand the processes for funding and evaluation of research.
6. Justify the principles and experimental techniques used in one's own research.
7. Understand the process of academic or commercial exploitation of research results.

(C) Research management – to be able to:

1. Apply effective project management through the setting of research goals, intermediate milestones and prioritisation of activities.
2. Design and execute systems for the acquisition and collation of information through the effective use of appropriate resources and equipment.
3. Identify and access appropriate bibliographical resources, archives, and other sources of relevant information.
4. Use information technology appropriately for database management, recording and presenting information.

(D) Personal effectiveness – to be able to:

1. Demonstrate a willingness and ability to learn and acquire knowledge.
2. Be creative, innovative and original in one's approach to research.
3. Demonstrate flexibility and open-mindedness.
4. Demonstrate self-awareness and the ability to identify own training needs.
5. Demonstrate self-discipline, motivation, and thoroughness.
6. Recognise boundaries and draw upon/use sources of support as appropriate.
7. Show initiative, work independently and be self-reliant.

(E) Communication skills – to be able to:

1. Write clearly and in a style appropriate to purpose, eg progress reports, published documents, thesis.
2. Construct coherent arguments and articulate ideas clearly to a range of audiences, formally and informally through a variety of techniques.
3. Constructively defend research outcomes at seminars and viva examination.
4. Contribute to promoting the public understanding of one's research field.
5. Effectively support the learning of others when involved in teaching, mentoring or demonstrating activities.

(F) Networking and teamworking – to be able to:

1. Develop and maintain co-operative networks and working relationships with supervisors, colleagues and peers, within the institution and the wider research community.
2. Understand one's behaviours and impact on others when working in and contributing to the success of formal and informal teams.
3. Listen, give and receive feedback and respond perceptively to others.

(G) Career management – to be able to:

1. Appreciate the need for and show commitment to continued professional development.
2. Take ownership for and manage one's career progression, set realistic and achievable career goals, and identify and develop ways to improve employability.
3. Demonstrate an insight into the transferable nature of research skills to other work environments and the range of career opportunities within and outside academia.
4. Present one's skills, personal attributes and experiences through effective CVs, applications and interviews.

Annex H

Examples of institutional good practice mapped against the framework of quality standards

The framework of standards and of good practice in the provision and delivery of RDPs is reproduced from Annex D. Against this framework we have mapped current examples of good practice at both institutional and unit level (in the grey boxes).

We had the opportunity to visit only a small number of institutions during the course of the project, and most of our examples of good practice relate to these visits. This is not meant in any way to imply that good practice exists only in these institutions: rather we hope that these few examples will encourage institutions to develop mechanisms to share further examples of good practice for the benefit of the sector as a whole.

The framework is divided into eight sections:

1. Institutional arrangements for research degree programmes
2. Research Environment
3. Selection, admission, enrolment and induction of students
4. Supervisory arrangements
5. Initial review and subsequent progress
6. Development of research and other skills
7. Feedback mechanisms
8. Appeals and complaints procedures

Column one identifies the requirements for the academic provision; columns two and three show how that translates into responsibilities for supervisors, and for students. Column four identifies the institutional requirements for good administrative procedures, regulations and processes.

Statements and figures in square brackets [ ] are offered tentatively.

Annex A contains a glossary of the terms used in this framework.

1. Institutional arrangements for research degree programmes (RDP)			
Academic standards	**Standards for supervisors**	**Standards for student/institution relations**	**Administrative process standards**
1A: The institutional code of practice must meet, and preferably exceed, the standards in this document. Institution to ensure that it has adequate arrangements and resources to deliver to standards that are at least as high as those set out in this document. It should have mechanisms to ensure that all areas meet these criteria. Co-operation arrangements can be made with other units, institutions and organisations if there are any aspects for which the minimum standards are not met. Any arrangements must be formal, explicit, recorded, and monitored by the institution.	All supervisors to receive, and conform to the practices within the institutional code of practice.	All potential students to receive clear and accurate information on RDPs, including the expectations and demands (financial and other) placed on the research student. Make explicit to students their legal commitment to the institutional code of practice when enrolling on an RDP. Make it explicit that the institution has a legal commitment to make provisions to students at levels which are also set out in the code of practice. UCL provides easy external web access to key documents of interest to postgraduates, eg the code of practice and sources of funding www.ucl.ac.uk/gradschool/essinfo	Standards to be together in an institutional code of practice covering all the points in this document and conforming to current legislation. The code to be given (and made available on the web) to every applicant, student, supervisory team, academic panel and examiner in a form that makes clear their respective responsibilities. Ensure that the provision of RDPs and related activities are accessible to all students, particularly part-time students and students with special needs. **1B: Institution to monitor, review and act on the application of the standards in its code, including the various standards set out in this document.** **1C: Institutional and unit performance to be monitored [annually] on progress and attrition against agreed targets including gender and ethnic groupings:** ▪ **submission rates [80% within 4 years]** ▪ **average time to submission** ▪ **completion rates [80% within 4.5 years]** ▪ **level of appeals, complaints** ▪ **student feedback.**
University of Sheffield tri-annual independent faculty review of research supervision and support. Review panel of two internal academics nominated by the Graduate Office, one external nominated by the faculty and a faculty observer. Recommendations go to faculty and institutional research committees.	University of Middlesex audited all eight Schools over a two-year period following the QAA code of practice. Each audit panel included the Chair of School, and an external and an internal auditor from the Research Degrees Committee. It is organised and minuted by the University's HEI Quality Assurance and Audit Service.	UCL produces a short student-focused code that outlines responsibilities of student and those of main supervisor, subsidiary supervisor, departmental graduate tutor and head of department.	

2. The Research Environment

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
Research training programmes should only be offered by units that meet defined research standards. The HEI should set these for each unit by reference to, eg: ▪ RAE rating ▪ level of grants and other funding ▪ number of research active staff ▪ papers, publications & patents ▪ facilities ▪ completion and pass rates. For units which do not meet the institution's standards, research training should only be offered after co-operative arrangements have been made with a unit in which the standards are met.	Supervisors to have relevant experience and recent publications in students' project areas. The White Rose consortium of the Universities of Leeds, Sheffield & York offers PhD collaborative scholarships across two of the partner universities. Students have access to the full research facilities at both institutions. www.shef.ac.uk/pgresearch/wr2002.html	Students to have a duty to contribute to the research environment (see Section 6). University of Middlesex School of Arts and Humanities provides a series of visiting speakers and trips to learned societies in London followed by deconstructive analysis the next week. University of Manchester Graduate School of Science, Engineering and Medicine provides peer-mentoring by PhD students for PhD students particularly in the importance of skills development. Described in the SRHE series of guides (see Annex J)	Institutions to establish unit research standards (at or above the threshold); such standards to be subject to monitoring and regular review by the institution. Co-operative links with other units, institutions and organisations formed in order to reach minimum standards must be formal, explicit, recorded and monitored by the institution. This should include demonstrating how the agreement(s) will achieve the effective operation of the required minimum standard.
2A: RDPs offered in units with minimum RAE rating consistent with [current QR funding levels]. Research active units should have a critical mass of research active staff, postdoctorates and research students within the unit or arrange this through explicit co-operative arrangements with other relevant units.	The Universities of Cambridge and Oxford, Imperial College London, and University College London run a Joint Inter-University Poster Competition for life and clinical sciences postgraduates. It offers students an opportunity to meet, advertise and discuss their research. www.ucl.ac.uk/gradschool/comp/jointposter		
2B: Demonstrate, within the unit/cognate area, a way of providing effective interactions: **▪ with a minimum [5] research active staff/postdoctorates** **▪ between a group of at least [10] students.**	The Scottish Doctoral Programme in Economics provides a single site MSc to serve the PhD programmes for eight institutions. During the PhD there is continuing interchange between the postgraduate community at a series of seminars and weekend reading parties. http://scottie.stir.ac.uk/intro.htm		
2C: Sufficient facilities for the research project, including library and IT facilities, should be available at or above the level needed for research of a national standard.		Students to have same access as academic staff to institutional resources, facilities and equipment (eg library privileges, funds for inter-library loans) and sufficient resources to do the project.	Institution should demonstrate a commitment to RDP by providing year-round access to facilities with no distinction between term time and vacations. University of Cambridge modern language students have 24hr access to dedicated postgraduate study space and computers

3. The selection, admission, enrolment and induction of students

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
There must be a rigorous admissions procedure to match students with a programme of research, supervisory team and institution. This may be achieved by: ▪ requiring all students to meet a minimum academic standard ▪ conducting face to face interviews for all applicants – which could be by video conference or local agent for overseas applicants ▪ taking up a minimum number of academic references for each applicant ▪ assessing other relevant information , eg language proficiency. **3A: Institutional minimum level of academic entry standard [2.1 or masters or institutionally defined equivalent APL/APEL].** **3B: Selection process and admission decision to involve at least [2] experienced and research active academics, trained in admission processes.**	University of Warwick Chair of Graduate School reviews all offer on basis of quality of the student, project and capacity to supervise. University of Sheffield uses two academics and supervisor on interview panels.	Confidentiality should be maintained throughout the admissions process. The student should be informed of and agree during the admission process: ▪ broad outline of proposed research topic and length of study ▪ facilities and space to be made available to the student ▪ choice of supervisory team, nature of the supervisory arrangements and 'contract' (see Section 4) ▪ requirements on the student eg attendance, progress reports, contact, enrolment, registration ▪ expectations of student in relation to academic and social conduct and performance ▪ requirements and availability of training. Applicants to made aware of any relevant institutional funds/bursaries to support students. National Postgraduate Committee (NPC) website provides guidance for prospective students (including overseas) and list of questions to ask before deciding to do a PhD www.npc.org.uk US survey of questions to ask yourself, institution and supervisor when thinking about doing a PhD. www.wcer.wisc.edu/phd-survey/advice/advice.htm	Written criteria and processes for admission of students and allocation of projects, achievement of which should be monitored. The person(s) responsible for making offers to be defined. Target response timescales to be published and monitored for each stage in the admissions cycle. University of Sheffield publishes timescales on the web for each stage in the application process. www.sheffield.ac.uk/pgresearch/Recruitment/HowToApply/index.html University of Manchester has a target to respond to enquiries within one month Institution to seek assurance that the student has sufficient financial support to complete the RDP. **3C: Open access to all relevant material on web.** **3D: Formal offer letter should include:** ▪ **fees and charges** ▪ **period of study** ▪ **direction of study** ▪ **specific requirements** ▪ **other requirements** ▪ **direction to other relevant information and codes of practice (eg on the web)** ▪ **student's responsibilities.**

3. The selection, admission, enrolment and induction of students (continued)

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
Induction process to explain the academic requirements of the RDP including matters such as research codes and ethics, academic misconduct, IPR and plagiarism. UCL Dept of Physiology 4 year programme provides students with a list of 10 questions to ask when selecting a laboratory. KCL Institute of Psychiatry Student & Supervisor Guidance for Supervision, designed and written by students, contains responsibilities of head of department/PhD tutor, supervisor and student. This document is signed by both parties and submitted to the PGR committee by the first three month review meeting.	Main supervisor to be actively involved in ensuring the student receives, understands and accepts the expectations of the RDP, and of any Health and Safety requirements and relevant legislation through the induction process. University of Sheffield provides an induction checklist to all research supervisors. University of Manchester and UMIST Careers Service's 'Postgrad Futures' annual magazine is provided at induction to all students to highlight the development opportunities for postgraduates. University of Leeds Staff Development Unit provides a checklist as an aide-memoire to supervisors who are inducting students into an RDP. http://www.leeds.ac.uk/sddu/new/ind_res.htm	The induction process should provide students with the opportunity to meet other researchers and staff and should explain mutual expectations, including: • challenges typically faced by a research student and where guidance may be sought • facilities made available to students as well as the provision of learning support infrastructure • provision for student welfare and other support arrangements • skills training programmes (Section 5) • expectations about opportunities to broaden knowledge through seminars, conferences, forums, etc. **3E: Student and institution to sign up to an agreement on the learning outcomes of the RDP.** University of Leeds provides a list of learning outcomes to help students reflection on progress and development. Some units incorporate this into a personal profile or personal development plan. www.leeds.ac.uk/sddu/new/ind_res.htm	Institution to provide a formal induction process within the first three months to cover all the points in columns 1-3 as well as other institutional matters such as: • the institution and its postgraduate portfolio • the institution's regulations and procedures – including on IPR • Health & Safety and other relevant legislation. Institution to monitor student attendance during the induction process and provide mechanisms to accommodate cross-sessional entrants. **3F: Institution to provide a formal induction process with monitored attendance.** University of Sheffield has institutional induction events to coincide with registration, with 98% attendance. Students issued with 'induction passport' with key information and contacts, research training programme handbook and guidebook for research students and supervisors. Graduate Office runs a weekly 'drop-in' surgery.

4. Supervisory arrangements

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
4A: Provide a supervisory team consisting of at least [2], one of who should be designated as the 'main' supervisor with overall responsibility for the student. For interdisciplinary, collaborative or externally/industrially supervised projects, there should be a 'third party' in the supervisory team to provide the student with access to an independent view. **4B: At least [2] members of the 'supervisory team' should be demonstrably research active academics with relevant knowledge and skills to supervise and with defined roles.** **4C: At least [1] member of the supervisory team to be from a minimum [3a] RAE rated department.**	The roles of the members of the supervisory team should be clearly understood by the team and student. **4D: The 'main' supervisor to have had experience of at least [1] successful supervision within a supervisory team.** **4E: The 'main' supervisor should only take prime responsibility for a maximum [8] students.** **4F: Training should be institutionally specified and compulsory for [new] supervisors.** All supervisors, whatever their level of experience should have regular training. Institute of Animal Health requires all supervisors to go through its portfolio-based Training and Accreditation Programme for Postgraduate Supervisors (TAPPS). www.iah.bbsrc.ac.uk/TAPPS/index.html	Student to have an identified contact (mentor/advisor) to whom they could go for confidential advice and support outside the immediate supervisory team. This person to have proactive periodic contact with the student. KCL Institute of Psychiatry provides every student with a personal tutor who is required to have contact with student every six months. Leeds Metropolitan University requires a supervisory team of at least a Director of Studies and one other supervisor. Normally a supervisory team has a combined experience of no fewer than two successful PhD completions or at least one member of the team has successfully completed the Advanced Professional Diploma in Research Awards Supervision. www.lmu.ac.uk/rdo/newrdo/apdras.htm	Guidelines should be provided for supervisors and for students setting out their respective responsibilities, with the arrangements embodied in institutional procedures. The workload associated with supervision should be identified and managed: this should involve transparent procedures for allocating time to the supervision of students. Periodic [annual] independent institutional review of the supervisory arrangements, with the outcomes used to adjust supervising responsibilities. Individual supervisor performance should be reviewed [annually] as part of the academic staff appraisal process. University of Middlesex recommends all supervisors should receive feedback on their performance as supervisors from the Director of Research and Postgraduate Studies as part of the annual appraisal process.
Regular structured [monthly] interactions with at least the 'main' supervisor to provide feedback on progress, with agreed outcomes recorded. **4G: There should be structured interaction with the supervisory team to report, discuss and agree academic and personal progress at least every [3 months]. Outcomes of all such meetings to be recorded as agreed.**	Alternative arrangements to be provided if any member of the supervisory team is unavailable for a significant period, defined by the institution. Specify the means by which a supervisor can seek independent advice on supervisory issues, especially if they have concerns about a student's ability or application to the study programme.	Student has responsibility to record and confirm outcomes of meetings.	

5. Initial review and subsequent progress

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
5A: Progress subject to institutionally defined periodic review by a panel of at least [3] research active and relevant academics, the majority of whom are independent of the supervisory team. At least one of the independent panel members should be from a minimum [3a] RAE rated department. An initial panel review to approve the project proposal might include a written or oral presentation, with an interview, on the basis of: ▪ clarity of objectives ▪ feasibility and project plan ▪ knowledge and skills of student and supervisory team ▪ availability of resources ▪ skills training needs Subsequent progress reviews to be assessed by the same (or equivalent) panel by means of one or more of: ▪ open presentation with critical feedback from their peers and department ▪ written progress report ▪ project presentation and viva to panel. Panel to provide a written report of the required steps to be taken if areas of concern are identified. Panel to have the power to sanction the student and/or the supervisor. Institute of Psychiatry, KCL student handbook sets out a monitoring timetable with major landmarks during a student's progress from enrolment to the submission of the thesis. Monitoring will occur for all students at 3, 6 and 12 months and on an annual basis thereafter.	Supervisory team has a responsibility to support the progress of the student. Responsibility to raise any concerns with the student in advance of each assessment and record them in writing The supervisory team has the responsibility to support the development of the project proposal, to ensure that it is achievable within the timescale of the degree programme and to confirm that sufficient resources will be available. Supervisory team to have access to panel progress reports to help address any areas of concern identified. University of Middlesex students present their research proposal within 6 months of enrolment to a panel of the Director of Research, an independent academic from the School and up to three relevant academics from outside the School (or HEI). University of Warwick Department of Sociology requires a first year review consisting of a 5,000 word paper, chapter headings for thesis, description of practical work and timetable, submitted in June to an independent panel.	The student has a responsibility to listen to, understand and accept feedback and criticism from the panel and supervisory team, recognising that this may sometimes be negative. Outcome of formal reviews to be provided as written (supportive) guidance to help the student identify the issues to be addressed. Student to be provided with an opportunity to address the concerns of the panel and re-submit within a time period set by the institution. Outcomes subject to academic and administrative appeal by the student. To transfer to a PhD from an MPhil (usually 18-24 months FT), the University of Middlesex requires students to produce: three draft chapters, fieldwork plan, literature review, aims & methods, open presentation and viva with transfer panel. He or she must also have completed any specified training programme, and must show how the project has changed from the original proposal.	**5B: Institutional procedures and time limits to be set, and unit performance monitored, for initial review and subsequent progress covering:** ▪ **initial review within [12] months of 'enrolment' and confirm continuation or upgrade to a PhD** ▪ **[annual] review processes** ▪ **implications of the possible outcomes of each assessment** ▪ **criteria for deciding suspension or termination of a student's registration.** Institutional procedures to be communicated to all; supervisory teams, students, panels, examiners, with a clear process for a student to appeal against a decision on academic or administrative grounds (see Section 8). Defined mechanisms for advising students if standards have not yet been, or are unlikely to be, achieved at any point in the programme. Project proposal should be subject to agreement by the resource manager that it is consistent with likely resource availability. For project proposals that are developed in advance of allocating students to them, the approval and above agreements should take place before the arrival of any student – with a subsequent check that the student's skills match those needed by the project.

5. Initial review and subsequent progress (continued)

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
5C: Final examination to be by a viva to an independent panel of at least two examiners who are research active in relevant fields, at least one of whom is an external examiner. All examiners to be independent of the project and to have had no prior role in its development, implementation or assessment. Operation of the panel managed by an independent chair. **5D: At least one of the examiners to be from a minimum [3a] RAE rated department. Each examiner to provide an independent report on the thesis prior to the viva.** University of Middlesex operates an independent chair responsible for regulations and policy requirements, external and internal examiners who submit independent reports in advance. Chair conducts the pre-meeting, viva, and joint report to registry and gives feedback to the student. Student has the right to opt to have the main supervisor present at the viva. Joint report is subsequently available to supervisor and student.	Supervisory team to support the development of the thesis and advise on preparation for the viva, including offering a practice session. Supervisor and team should be available to the panel if required. Supervisory team to have access to examiners' reports following the viva. Leeds Metropolitan University provides research degree examination workshops for staff and research students who expect to examine or to be examined for a research award.	For the final defence, the student should: ▪ be able to comment on the choice of examiners ▪ have the right to request or refuse the presence of the main supervisor as a non-contributing observer (unless asked to contribute by the chair). Examiners' reports to be made available to student following the viva. If required to re-submit, students should be given a written statement of the work to be done to get their degree within an agreed timescale. University of Strathclyde produces video packs targeted at students for use in workshops, eg '*Thesis Writing*', '*The Viva*'. Former students from the University of Cambridge Faculty of Classics produced 'Writing a Cambridge Classics PhD: a Survivor's Guide'	Institutional procedures and timings to be set for the examination and made available to the student. Procedures and approval process for the selection of internal and external examiners to use transparent criteria. Training for examiners to be available as part of the institution's staff development. Institutional assessment criteria for the examination to be provided to examiners in writing, with an offer of training. External examiners requested to provide comments on the broader issues of the research training and environment to an appropriate institution-wide body.

6. The development of research and other skills

Academic standards	Standards for supervisors	Standards for student/institution relations	Administrative process standards
6A: Provide training programmes to develop a range of skills and knowledge consistent with the Joint RC/AHRB skills statement, including skills for employment, and provide mechanisms to assess formally the development of these skills. The Research Councils' Graduate Schools Programme (RCGSP) provides access to five-day personal development and career management courses, materials and custom courses that meet part of the Joint RC/AHRB skills statement. The University of Edinburgh life sciences departments are mapping provision of current training programmes, the RCGSP and supervisor support against the Joint RC/AHRB skills statement. Royal Society of Chemistry (RSC) produces a booklet for scientists 'Getting the Message Across' on improving communication skills, www.rsc.org	Know about the range of relevant research training courses both within and outside the institution – and ensure the student knows this too. Agree a programme of training with the student, ensure that it is a balanced training programme throughout the RDP. Review progress and give guidance to the student if additional action is needed. Have access to guidance and support in assessing skills and identifying students' training needs. **6B: Student and supervisory team to identify and agree a training needs analysis against the Joint RC/AHRB skills statement as part of the [induction] process. It should be reviewed [quarterly] to ensure needs are being met.** Institute for Learning & Teaching (ILT) produces a guide 'Inspiring Learning about Teaching and Assessment' for postgraduate and academics new to teaching and demonstrating (Annex J)	With the supervisory team, agree and document a skills training programme that takes into account prior learning and experience. With the supervisory team, review and record annually, an assessment of the evidence of skills developed. **6C: Student to maintain a jointly agreed record of personal progress.** UCL requires every student and main supervisor to document progress in a log book . The Royal Society of Chemistry produces a comprehensive 'Postgraduate Skills Record" for recording progress and skills development. Although targeted at chemists it is useful for all scientists.	Ensure provision of a programme of training courses consistent with the Joint RC/AHRB skills statement, including skills for employment. Ensure that there is the same access to training for all students, taking into account the needs of part-time students, students with special needs and students remote from the institution. Conduct a periodic independent institutional review of the quality and capacity of training programmes and of students' access to them. The review panel should include external representation such as other academics and prospective employers. The University of Leeds provides a virtual graduate centre for postgraduates to make the most of their academic, social and personal development. www.fldu.leeds.ac.uk/opensite/graduate/
6D: Minimum level of activities defined and monitored to promote breadth and depth of knowledge and experience by means of attendance at internal and external seminars, conferences, discussion forums, [twice annual] 'presentations', teaching, demonstrating Encourage students to publish and/or present papers to benefit from receiving critical feedback from outside the supervisory team.	Provide students with an introduction to relevant academic networks to enable them to participate in wider scholarly activity . Provide advice on attendance at relevant seminars, conferences, etc.	Responsibility on students to attend and contribute to seminars and discussion forums. Students actively to seek opportunities to present work and to receive feedback. The NPC website presents 10 tips for postgraduates wishing to teach. www.npc.ac.uk	Set standards for the extent of such activities and establish a monitoring process to ensure that they are being met. AUT, NPC and NUS have produced an employment charter for postgraduate students and academic related staff who teach. It covers employment rights and responsibilities, good practice guide and training advice. www.npc.ac.uk

7. Feedback mechanisms			
Academic standards	**Standards for supervisors**	**Standards for student/institution relations**	**Administrative process standards**
7A: Establish and operate confidential feedback mechanisms for: ▪ **current students [column 4]** ▪ **supervisory teams and review panels** ▪ **external parties, eg examiners, funders, collaborative organisations, employers, alumni.** **Incorporate this feedback into the regular review of academic standards and provide information on action taken in response.** University of Sheffield has an annual confidential survey (or independent focus groups in small departments). Results accumulated at department, faculty and institutional level go to Senate. Highlights are reported in the student newsletter and posted on the web. The university also surveys new students 6-8 weeks after commencement on recruitment, admission, and induction procedures.	Supervisors to be responsible for providing feedback to improve research provision. Supervisors to be provided with explicit mechanisms to give feedback on RDP performance (confidential where appropriate). Supervisors to receive personal feedback on their own performance to help them improve and identify their own training needs. The Wellcome Trust evaluated its three and four year programmes using questionnaires to supervisors and students (see Annex J). University of Manchester School of Biological Sciences surveyed final year students, five cohort years of previous postgraduates, and employers on their PhD experience, expectations, skills and subsequent employment. www.lmi4he.ac.uk (Post PhD – What Next?)	Students to be responsible for helping to improve research provision through: ▪ providing feedback to their own supervisory team ▪ providing feedback to the institution by participating in, for example, interviews and focus groups ▪ representation on committees ▪ responding to surveys ▪ as alumni, providing information to first destination surveys and subsequent longitudinal studies. University of Warwick has student representation on every postgraduate policy making committee, eg Students' Union (SU) Chair and Officer and three faculty representatives on the Board of Graduate Studies. There is a strong relationship between SU and Graduate School: joint events are held in SU, funded by Graduate School, such as welcome party, conference, and booklets for new PGR students. SU actively involved in producing postgraduate guidelines issued by Graduate School.	Establish and operate confidential feedback mechanisms and provide information on actions taken in response: ▪ conduct survey up to [10 weeks] after start, on recruitment, admission and induction procedures ▪ annual survey (or conduct independent focus groups in small departments) ▪ exit questionnaires on student completion ▪ exit interviews (conducted by a relevant person, but not someone from the supervisory team). Research students to be represented on those policy committees relevant to research degree programmes.

8. Appeals and complaints mechanisms			
Academic standards	**Standards for supervisors**	**Standards for student/institution relations**	**Administrative process standards**
To operate transparent, clear criteria for complaints and appeals, which might be made on academic grounds.		Students to be provided with clear explanations about the mechanisms for complaints, and appeals.	**8A: Institution to arrange and publicise separate, fair, transparent, robust and consistently applied complaints and appeals procedures, appropriate to all categories of research students.**

Annex I

Comparison of international practices

1 Introduction

This survey of international practice in research training has concentrated on five countries relevant to the United Kingdom in terms of research degree programmes (RDPs): the US, Canada, Australia, France and Sweden. It is based on material accessed through the web sites of universities and national higher education organisations. It is not meant to be an exhaustive review, but to highlight specific areas of similarity or difference to UK practice and to provide examples of good practice that have been identified from a selection of institutions.

In common with the UK, other countries are debating the purpose, relevance and appropriateness of RDP training. They face the same issues of increasing numbers of PhDs against a reduction in academic posts, and non-academic organisations claiming that people with PhDs do not have the range of skills they require.

There are further concerns that PhD students are not being equipped for academic roles, particularly in the US where the majority of universities teach only undergraduates. The concentration on research training leaves PhDs ill-equipped to make the transition to teaching.

The US, Canada and Australia have traditionally been the UK's competitors for international students. However, the UK is in competition with many European countries, which often offer programmes delivered in English with the added benefit of learning the local language. Increasingly, all providers are also competing with local provision in home countries.

To improve international recruitment, a consortium of UK universities is marketing a New Route PhD[1] internationally. These are integrated four-year PhD programmes incorporating taught modules, professional skills development (including teaching), and research.

The perception is that the US offers a more rigorous training with formal hurdles than UK RDPs. In practice US hurdles tend to concentrate on course requirements, rather than progress in the research: they can be seen by students as burdensome and not relevant to the programme.

Feedback from the Middle East, one of the main PhD markets, is that the principal attractions of UK postgraduate education are:

- the quality, as evidenced in the RAE
- the shorter programme, in comparison with the US
- the broader training elements, such as teaching and transferable skills.

The taught elements of the New Route PhD are seen as positive aspects of the programme, with several members of the consortium offering a Masters qualification as part of the programme.

Comparison of costs with the US is not easy. Fees may be lower in the UK, but the lack of scholarships, teaching assistantships and research assistantships for international students can be a major disincentive, particularly to self-funded students.

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[1] www.newroutephd.ac.uk

2 United States of America

The US has a well established Graduate Schools structure, and an associated national organisation supporting graduate schools, The Council of Graduate Schools, based in Washington DC. This organisation has done a considerable amount of work in formulating policy and advising institutions.

The pattern of doctoral education in the US is very different from that in the UK, with considerable emphasis on specific taught programmes. The approval process for institutions to deliver doctoral programmes is well regulated and researched.

Currently the nature of the doctorate is being reviewed as research evidence is questioning the appropriateness of the PhD for many graduates. Many of the questions are familiar to UK audiences, and concern the following issues:

- The pool of students:
  - diversity – who is doing doctoral programmes and why
  - numbers produced – who manages numbers and should they be better managed
  - progress through the pipeline – problems of high failure rates and ever increasing time to degree
  - postdoctoral students – what do they do, what is their status
- Process and content:
  - breadth and depth – interdisciplinarity, innovation, and collaboration
  - advising and mentoring – ensuring supervision is well structured and delivered
  - funding – postgraduates are under supported, how can this be improved
  - quality of life – expectations, duration of programmes, long working hours, inadequate facilities
- Career preparation and PhD as training:
  - preparation for non-academic careers – alumni data
  - preparation for faculty careers
- Feedback loops and oversight:
  - review and monitoring
  - information to prospective students – on time to complete, completion rates, funding, costs of study, etc
  - student review
  - institutional and departmental reflection on programmes and delivery, self-evaluation.

Typically, the responsibility for maintaining standards in an individual's research training is different to that in the UK, in that the onus is placed firmly with the student. Student responsibilities usually include:

- completing exams in order to progress through a programme of study
- completing orientation courses
- setting up a doctoral committee
- taking part in an exit interview (pre-graduation)
- publishing
- completing progress reports
- initiating a transfer procedure.

However feedback from doctoral students in the US[2] found that:

- many students do not clearly understand what doctoral study entails, how the process works and how to navigate it effectively
- the training they receive is not what they want, nor does it prepare them for the jobs they take.

Institutions are being urged to give accurate information to students about PhD programmes, and to provide opportunities for students to explore and prepare for a variety of careers in and out of academia.

Typical feedback from international students who have applied to both UK and US institutions is that US institutions are considerably better at using their networks and alumni to market to potential students. It is also easier to access information about research programmes, and departments and institutions are more responsive to queries.

Alumni can have significant influence on the choices made by prospective students and may provide valuable contacts for marketing programmes.

3 Canada

Canada is currently in a period of change with regard to university research and research degree programmes. The federal Government has set a target of moving from 15th to 5th by 2010 in the Organisation for Economic Co-operation and Development (OECD) rankings for research and development investment. The emphasis is on the development of PhDs to supply Canadian universities. It is estimated that between 2,500 and 3,000 new faculty members will be needed to 2006, and that by 2010 more than 30,000 will need to have been hired or replaced. Only 35-40% of graduates with PhDs work in academia; many are lost to the US.

The Advisory Council on Science and Technology identified three conditions to enhance Canada's competitiveness:

- quality of researchers
- funds available to support the costs of research
- quality of the research environment.

Funding levels and availability continue to be suggested as reasons for recruitment problems to PhD programmes. Studentships are supported through two streams: grants from the research councils and scholarships. The Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) both fund studentships in their research grant allocations. It is suggested that the number allocated is quite low, and certainly so compared with anticipated needs (NSERC 4,400 pa). There are also prestige scholarship programmes in various provinces that have a degree of autonomy in supporting PhD programmes. In Ontario, for example, 2,500 students are supported each year through the Ontario Graduate Scholarship.

The research environment has received increasing attention as funding limitations, and in particular the way in which indirect costs are attributed to institutions, have limited the development of a quality research environment.

Canadian universities provide the administrative and regulatory framework for doctorate study through Schools of Graduate Studies. They are responsible for registering students and supervising the viva process. Most universities also insist on a student completing a substantial body of taught work before registering for a PhD.

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[2] 'At cross purposes: what the experiences of today's doctoral students reveal about doctoral education', 2001 www.phd-survey.org

4 Australia

Various quality assurance initiatives undertaken by the Commonwealth Government and the higher education sector have impacted on research degrees. The Australian Vice-Chancellors' Committee (AVVC), equivalent to Universities UK, has set out a number of criteria for institutions to gain and maintain university status, which include a statement and guidelines on research practice, and generic guidelines for student expectations and responsibilities (developed jointly with the National Health and Medical Research Council).

Sector-wide performance indicators are published in 'Characteristics and performance of higher education institutions' and provide details of commonality and diversity within the sector. There is also a core set of 'graduate attributes' shared by most universities.

There are a number of international performance indicators (share of world research papers, publication rate) which show that the quality of research by Australian universities is increasing. The 1999-2001 quality assurance and improvement plans suggest that research and research training is becoming more planned and professional.

A Postgraduate Research Experience Questionnaire has been introduced which is designed to gather information on higher degree research graduates' course experience. The questionnaire focuses on:

- supervision of research students
- thesis examination process
- facilities and services provided to postgraduate students.

The questionnaire is currently being piloted and is seen as an important tool for institutions to use in reviewing their own performance, and for the Government to assess and review quality. Moreover, universities will be able to benchmark their outcomes against national data.

Australian universities largely follow the UK model in terms of the structure of higher degrees by research. However, most institutions also offer professional doctorates, typically involving a research thesis and assessed course work.

It is interesting to compare the openness of Australian universities with the more restrictive approach adopted in the UK by some institutions with respect to accessing information. Their web sites are well designed, extremely accessible and place key documents in the public domain. It is possible to view key institutional policy statements on higher degrees and to look at the codes of practice that underpin the regulations. Most Australian universities have adopted codes of practice that amplify key issues relating to student/supervisor relationships.

External validation plays an important role in the way universities assure and maintain standards. External examiners are used for most research degrees. The Government has recently commissioned a pilot project to examine how universities determine whether their degrees are of a 'good standard'.

A key difference from UK practice is that many, if not most, Australian universities will award the degree of PhD without a viva. In fact the viva only forms part of the assessment regime if the examiners have concerns over the originality and contribution of the programme of research.

5 France

Following the government review of research training in 2000, the *écoles doctorales* became the sole institutions with a capacity to oversee the research training of all new research students and to award doctoral research degrees, including the DEA (*diplôme d'études approfondies*). The experiment with the *écoles doctorales* was introduced in the late 1980s to strengthen the research training of PhD students and to offer them wider research opportunities. From 1998 onwards, the Ministry of Research widened the scope of the *écoles* *doctorales* to make them centres for research excellence and also to attract more research students. Currently, 315 *écoles doctorales* exist in France.

The *écoles doctorales* are responsible for recruiting research students, enrolment in the DEA and enrolment of PhD students. The reforms of the French research training aim to improve the quality of research training for students. The objectives are to:

- ensure that research students undertake research within adequately resourced research centres, hence the focus on the *écoles doctorales*
- ensure that there is monitoring of research training and progress throughout the research process
- reinforce the employability of research students not only in the public sector but also within business and consultancy sectors.

The restructuring of the research training programme into the '*doctoriales*' (troisième cycle) aims to encourage research students to contribute/participate in projects that would strengthen not only their research training, but also their employability. This is mainly achieved through seminars and regular meetings with local authorities and practitioners. Furthermore, the aim of restructuring the training of research students is to improve the status and image of PhDs. (There are10,000 to 11,000 vivas per year, and up to 4,000 researchers are recruited within the public sector.)

The Ministry of Research provides research grants to students wishing to pursue research within the *écoles doctorales* (4,000 grants per year). This is perceived as critical to support research students during their training and to ensure good quality theses.

The *troisième cycle* in France is the equivalent of the British research training programmes. There are two routes within this context:

- one year training leading to a DESS (*diplôme d'études supérieures spécialisées*) which enables graduates to undertake employment within their area (equivalent to the UK Masters)
- one year research training leading to the DEA (*diplôme d'études approfondies*) which would entitle students to undertake PhD training (equivalent to the UK MRes).

Only students holding a DEA can register in one of the *écoles doctorales* for a PhD. They are expected to complete within 3 to 4 years.

In 1993 a DRT (*diplôme de recherche technologique*) was introduced and geared towards technological innovation and high-tech industries. This research training falls within the category of collaborative training between universities and leading-edge businesses (*thèses en co-tutelle*). This training is undertaken during an 18 to 24 month period.

6 Sweden

A notable feature of the Swedish system[3] is that practices vary between disciplines and institutions. The notes below are not intended to obscure differences but rather to present a general picture.

An RDP in Sweden is usually made up of a programme of research training, research, and a doctoral dissertation. In Sweden there is also what is known as a 'Licentiate Degree'. This is effectively both a step on the path to a PhD and an alternative path. It may equate to an MPhil in the UK.

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[3] The National Agency for Higher Education is the central authority for institutions of higher education in Sweden, http://www.hsv.se/. Much of this information is drawn from its web site.

To earn a PhD a student must pass the courses that form part of the programme, and write a doctoral dissertation acceptable to the department or faculty that is defended successfully in public. This involves defending the thesis against an opponent in front of the examiners (from the host and external universities) and colleagues, and family and friends, in an open forum where anyone is allowed to ask questions after the interrogation is completed.

The dissertation may be on a unified theme (monographs), most common in non-laboratory subjects, or a collection of previously published articles by the candidate (compilation).

Compilation dissertations comprise a number of papers (normally 3 to 6) published in peer reviewed journals during the period of postgraduate training, and a summary of the articles. In laboratory and clinical subjects, dissertations are almost exclusively in the form of compilations. Some of the papers in the dissertation may have been written by several individuals, but the PhD student must normally be the principal author of a major part of the dissertation. This continuous quality assessment of publication by peer review is seen to render the public defence of the dissertation less crucial than in the case of a monograph.

A very clear distinction is drawn between research degree training and taught course study. A PhD student has a supervisor for support, but the delivery and assessment methods that are features of undergraduate work are all virtually absent in doctoral programmes. It is recognised that 'PhD students have to drive their own studies forward under their own steam'. In these ways the distinction between taught and research degrees is very similar to that made in the UK.

A postgraduate training programme has a 'general curriculum' determined by the faculty board and institutional regulations, and an 'individual curriculum' that describes the contents of the programme drawn up for each research student with their supervisor.

The general curriculum contains:

- the principal contents of the programme and in relevant cases the compulsory reading for the subject
- the general arrangement of the various parts of the programme
- requirements of previous knowledge and other conditions in addition to the basic eligibility (special eligibility)
- the selection rules applicable in relation to admission
- the tests and exams that form part of the programme
- where applicable, the possibility of completing a part of the programme with a Licentiate degree.

The individual curriculum has been in place since 1993 though it was not precisely delineated until 1998 when detailed regulations were written. They are intended to make it possible to successfully complete a programme of postgraduate training within four years of full-time study. This curriculum makes clear what the rights, duties and expectations are between faculty, supervisor and postgraduate.

An individual curriculum must contain:

- a timetable for the programme of education (showing the courses the PhD student is to take and preliminary dates for a projected article, manuscript or dissertation)
- a description of the PhD student's and the faculty board's respective obligations during the period of postgraduate training
- other matters needed for an effective programme of study.

The following aspects might also form part of an individual curriculum:

- the specific objectives, both short and long term, of the PhD programme
- a detailed description of the research assignment
- a preliminary title for the dissertation

- courses and reading for the programme
- the future plans of the supervisor in so far as they might affect the PhD student's studies.

In recent years, regularly held faculty-wide research assessed training programmes have been developed in many institutions. Courses in scientific theory, methodology, ethics and statistics are often included in these programmes. The basic courses should be completed during the first two or three terms of training, and it is usually recognised to be a good thing for most courses to have been completed during the first half of postgraduate studies.

The following sections highlight examples of good practice within the sections of the framework from specific US, Canadian and Australian institutions.

7 Research environment

The University of Florida actively encourages student publication and extensive student-professor co-publishing.

James Cook University, Australia, has implemented a competitive Doctoral Research Merit Scheme that provides funding to support research by PhD students. It focuses on encouraging students to submit their work for publication before their thesis is assessed.

Charles Stewart University in Australia has implemented a research publication points-based grant scheme to encourage researchers to register and publish their material on the university's web site. For each point, a researcher qualifies for a grant of AUS$300.

8 Selection, admission, enrolment and induction of students

The University of Florida has a proactive approach to student recruitment, to identify and cultivate the best students. It supplements the usual methods of recruitment (advertising material, use of the internet), with more direct marketing appeals. For example, it obtains the list of students who have achieved high first degree scores and targets them with an initial contact, letter and brochure, and contacts departments and chairs at other institutions.

There is an 'orientation' course for all new students. Students are required to take a one-credit orientation course regarding curriculum, faculty and responsibilities. A mentor programme matches incoming students with veteran students. All incoming students receive the Department Graduate Student Handbook which details deadline dates, course options and policies.

International postgraduate research students at Adelaide University are required to complete an integrated bridging programme that forms part of the structured programme of study.

University of Tasmania candidates are required to sign a supervision agreement as part of the application process to join the PhD programme. It sets out the supervision arrangements and details of any special conditions that apply to the programme of research.

9 Project approval and registration

At Lakehead University, Canada, a student's PhD project or study must be endorsed by a Thesis Committee prior to registration.

University of Florida students form an Advisory Committee by the end of the first semester and meet with their committee for programme approval and direction at the beginning of the second semester.

Once students at the University of Pennsylvania have completed all course work, they register for 'dissertation supervision', which designates them as an active doctoral student and allows them to meet with their supervisor, sit exams and use the university facilities for research.

10 Supervisory arrangements

The University of Queensland operates a system of supervision excellence awards. Each year three awards are made available to supervisors nominated for consideration.

The University of Florida actively encourages regular meetings with the major supervisor (2 to 3 times a week).

The University of New Mexico strongly encourages each doctoral student to assemble a committee to assist in planning a programme of studies. The committee generally includes three faculty members approved by the student's graduate unit. The chairperson is usually the student's major adviser.

The basic role of the committee is to plan, with the student, an integrated individual programme of study and research, meeting general university and specific graduate programme requirements.

The committee may also establish prerequisites when needed, recommend transfer of credit, certify proficiency in a foreign language or alternative skill, and approve significant changes in the programme of studies. It may also serve as the core of the doctoral comprehensive examination committee and/or the dissertation committee.

11 Review and progress

Southern Cross University in Australia requires PhD candidates to undertake a probationary period of one year. At the end of the year, the institution must determine whether the candidate is upgraded to full PhD student status, whether the probationary period should continue, or whether the candidate's enrolment should be ended.

All University of Pennsylvania doctoral students are regularly reviewed by the faculty to evaluate their progress. Evaluation is based on a review of course work, fieldwork, progress and other relevant criteria. It is expected that all students will make steady progress toward completion of degree requirements unless a leave of absence has been granted. Lack of significant progress in completing degree requirements for two consecutive years will automatically terminate candidacy or eligibility to apply for candidacy if not already attained. Students submit an annual progress report on line.

Massachusetts Institute of Technology (MIT) PhD students must pass the general examination (usually taken at the end of the second year of graduate study). The examination is composed of the subject requirements, a research-oriented paper, and an extensive oral examination.

The Committee on Graduate School Programs (CGSP) monitors minimum academic standards for all graduate students in accordance with the rules and regulations of the faculty. The CGSP reviews the academic records of all graduate students at the end of each term (including the summer session).

Recommendations for action by the CGSP are made by departmental graduate committees. In addition, departmental graduate committees may recommend to the CGSP that a student be allowed to register only for a less advanced degree. Continuing registration of graduate students from term to term is contingent upon satisfactory academic performance.

The University of New Mexico doctoral students must pass a Doctoral Comprehensive Examination in the major field of study. This examination, which may be written, oral, or both, is not limited to the areas of the student's course work, but tests the student's grasp of the field as a whole.

The University of Pennsylvania has a 'dissertation status' that signifies that the student has completed all requirements for the doctoral degree except for the dissertation. A student who has not maintained active status by registering each term will be considered withdrawn.

Doctoral students who have reached dissertation status will not be granted a leave of absence except in exceptional circumstances.

12 Final examination

At the Queensland University of Technology, Australia, PhD candidates are obliged to attend a final seminar that determines whether the thesis is acceptable, before it is formally examined. A panel of three academics nominated by the faculty conducts the seminar. The principal supervisor chairs the proceedings and the discussion is conducted in a public forum.

At Murdoch University, Australia, supervisors must prepare and sign a statement that confirms the quality of the thesis and highlights any special circumstances relevant to its assessment.

Laurentian University, Canada, stipulates a timetable for the viva: examiners have a minimum of 4 weeks to read a thesis and the viva must be held within 6 weeks of the thesis being submitted. The university also allows teleconferencing of vivas.

At McGill University in Quebec and Brock University, Ontario, the final examination takes the form of an open seminar given by the student, which is then followed by a closed viva. Students take part in a public seminar of 30 to 40 minutes, which is then followed by a period of open questioning. At the end of this session, the examination committee decides whether the student should undergo any further questioning.

Many Australian universities allow PhD candidates the right to challenge or question the nomination of examiners. For example, at Monash University the regulations allow students to challenge the appointment of an examiner if they believe it is likely to be prejudicial to the fair assessment of the thesis. At the University of Sydney candidates are permitted to indicate in writing to their head of department or the dean of the postgraduate committee, the reason why any person should not be appointed as an examiner of their thesis. Candidates may also initiate a discussion with their head of department as to the range and composition of the examination panel.

At James Cook University, Australia, when assessing a PhD thesis each examiner can prepare and submit written questions to which the candidate must respond in writing. A copy of any questions must be sent to the other examiners.

The University of New Mexico requires all doctoral students to have their dissertations published through University Microfilms International.

13 Development of research and other skills

Professional development is a high priority at the University of Florida. Seminars are conducted to assist further academic pursuit and graduate students are encouraged to participate in activities of relevant professional societies.

The institution encourages the completion of an annual activity report that details courses, teaching activities and goals.

At the University of New South Wales, structures are required to develop mentoring paths and career planning for researchers in the early stages of their careers (including post doctorates).

Alberta University regulations stipulate that all PhD students must have teaching experience before completing their PhDs.

14 Feedback mechanisms

The University of Florida requires formal feedback from students throughout the programme. Departments will meet with all students on the day prior to graduation for exit feedback.

As part of the University of New South Wales' drive to increase the number of female postgraduate students, the university conducts exit interviews with any female postgraduate student who discontinues the programme of study/research without giving the reason or reasons for leaving.

Annex J

Postgraduate degree programmes: related literature

General texts

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Annex K

Research Councils/AHRB requirements for postgraduate funding

1. Institutional requirements for research degree programmes (RDP)							
	AHRB	**BBSRC**	**EPSRC**	**ESRC**	**MRC**	**NERC**	**PPARC**
QAA Code of Practice required	✓	✓	✓	✓	✓	✓	✓
Submission rate 4 yr target (approx)	70%	70%	80%	75%	70%	80%	3 yrs
Sanctions applied at	<50%	<70%	<60%	non submission	none	<80%	
Average time to submission					✓		✓incentive
Attrition							
Complaints & appeals statistics							
2. The research environment							
Pre-recognition of departments				✓(5yrly)			
Departmental visits	informal	sampling by review committee	HEI interface managers	5-7 HEIs per yr	informal	top 20 HEIs	informal
RAE minimum		3a				3b	
Peer review	✓	✓	✓	✓	✓	✓	✓
RC/AHRB related research activity	✓	✓	✓	✓	✓	✓	✓
Volume of grant funding		✓	✓	✓	✓	✓	✓
No. of publications		✓		✓	✓		✓
No. of research active academic staff & fellows		✓		✓	✓	✓	✓
No. of postdoctorates		✓		✓	✓	✓	✓
No. of students		✓		✓	✓	✓	
Support, facilities, specialist staff, library	✓	✓	✓	✓	✓	✓	✓
3. The selection, admission, enrolment and induction of students							
Qualification (or APL/APEL) for PhD registration	Masters	2.1	2.1 norm	recognised Masters	2.1	2.1	2.1
Named student on proposal	✓			✓			
References	✓			✓			

3. The selection, admission, enrolment and induction of students (continued)

	AHRB	BBSRC	EPSRC	ESRC	MRC	NERC	PPARC
National competition	✓			✓	✓	few awards	✓
Algorithmic quota / Doctoral Training Account[1]			✓(except Maths)			✓	
Peer review of student research projects	✓	✓ (~30%)		✓	✓		✓ (<12%)
Departmental induction				✓			
4. Supervisory arrangements							
Team of supervisors (recommended)				✓			✓
Named main supervisor	✓	recognised list	✓	✓	✓	full staff member	✓
Scholarly standing	✓	✓			✓		
Maximum number of RC students		1 per yr					
Supervisor monitoring & training		✓		✓	✓		✓
New supervisor training		✓		✓	✓		✓
RC Code of Practice for supervision			✓	✓	✓	✓	✓
5. Initial review and subsequent progress							
Recommended monitoring & assessment procedures		✓	✓[1]	✓	✓		✓
External to supervisory team			✓				
Independent mechanisms to assess progress			first year[1]		✓		first year
Annual reports/confirmation of satisfactory progress to RC/AHRB	✓	✓	✓[1]	✓	✓	✓	✓
Final report to RC/AHRB	✓		✓[1]	✓	✓	✓	✓

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[1] Under the Doctoral Training Account system institutions have greater discretion on monitoring and assessment procedures.

6. The development of research and other skills							
	AHRB	**BBSRC**	**EPSRC**	**ESRC**	**MRC**	**NERC**	**PPARC**
Joint Statement of Skills Requirements	✓	✓	✓	✓	✓	✓	✓
Required level of skills training provision	reviewing	template	Research Councils Graduate Skills Programme	recognised Masters	outline statement	outline statement	outline statement
Identified on project proposal	✓	✓			✓		✓
Research training support grant	reviewing	✓	✓	✓	✓	✓	✓
Opportunity to present work (nationally)		✓				✓	✓
Funds for national conference attendance		✓	✓	✓	✓	✓	✓
Seminar programme		✓		✓	✓		
Cross departmental activities				✓			
Maintain record of progress			✓		✓		✓
7. Feedback mechanisms							
Feedback on induction process						✓	
Annual student feedback questionnaires	reviewing		reviewing			✓	✓
Exit interviews/questionnaires	reviewing						✓
Ad hoc surveys			✓		✓		
First destination statistics	✓	✓	✓	✓	✓	✓	✓
Longitudinal studies (ad hoc)	reviewing		✓			✓	
Annual departmental feedback						✓	
8. Appeals and complaints mechanisms							
Involvement by exception	✓	✓	✓	✓	✓	✓	✓

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